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Creative heartland: Creative capital and knowledge economy in micropolitan Midwest

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CREATIVE HEARTLAND: CREATIVE CAPITAL AND KNOWLEDGE ECONOMY IN MICROPOLITAN MIDWEST

An Abstract of a Thesis

Submitted

in Partial Fulfillment

of the Requirements of the Degree

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ABSTRACT

Recent regional development studies increasingly focus on creative economies that provide an alternative perspective to regional development in a globalizing world-economy. However, most research in economic geography of creativity and innovation is exclusively concerned with larger metropolitan areas. The lack of attention does not make knowledge-based economy less relevant or creative capital less important in smaller urban regions, where it acts as an agent of economic development and revitalization. This study is the first attempt to use creative capital metrics and a combination of qualitative and qualitative analyses to investigate the creative capital and its economic implications in micropolitan areas within the U.S. Midwest. The study aims to improve the understanding of the role, characteristics, and geography of creative capital within micropolitan statistical areas as pertain to knowledge production and economic growth. In addition to understanding the role, characteristic, and spatial dynamics of creative capital the research also examines what attracts creative capital to micropolitan communities. The study implements a six sector model of the creative capital and utilizes various occupation-based measures to conduct a geographical and statistical analysis of creative capital and its relationships with community socio-economic characteristics and knowledge production. The study finds that creative capital at the micropolitan level is present and exhibits geographic variability. Different components of creative capital demonstrate a synergy, i.e. a tendency to cluster. However, creative capital is not evenly distributed across the Midwest with most micropolitan areas lagging behind. Creative capital accumulation does have a connection

to the knowledge economy. It is generally similar to that in metropolitan areas. At the same time, when it comes to attracting creative capital there is a difference in between micropolitan centers and metropolitan areas. Creative workers in micropolitan areas are looking for a difference experiences that is not always offered in larger cities. The case studies indicate that social and civic capital may play an important part in attracting creative capital to smaller towns. These findings are important in understanding creative capital in micropolitan areas along with other regions outside of large city-regions. The findings are important for considering different policy options for micropolitan areas to maintain, and attract future knowledge economy.

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CHAPTER 1

INTRODUCTION

Over the last several decades, innovation and knowledge production have been a main driving force in economic growth across the world (Bell, 1973; Clark, Feldman, & Gertler, 2000). This phenomenon has led to great interest in innovation and knowledge base sectors and their role within economic geography (Bathelt, Feldman, & Kogler, 2011; Feldman, 2000). Discovering how innovation and knowledge work within geographical context has been no simple task, which has led to many approaches and theories on how one could measure innovation and knowledge within and across geographic borders (Feldman, 2000). Richard Florida (2002) developed the theory of creative class, which includes those in creative occupations, to measure a region's innovation and knowledge potential. This dwells on the long-term heritage of economic geography research that pointed to the special role of human capital in regional development (Glaeser, 2000; Jacobs, 1984; Romer, 1990).

Florida (2002) contended that creative capital has become the main driving force of economic advancement in the knowledge-based economy. Creative capital is the stock of human creativity that has an economic value (Florida, 2002, 2012; Petrov, 2007, 2008; Petrov & Cavin, 2012). However, this theory is traditionally confined within the limits of metropolitan areas (Boschma & Fritsch, 2009; Florida, 2002, 2005, 2012; Gertler, Florida, Gates, & Vinodria, 2002). This has led to the geographical bias in the study of knowledge economies by primarily focusing on core urban areas.

By having an exclusively metropolitan statistical area (MSA) focus, this theoretical discussion left behind many regions that are part of the world economy of today. However, there have been a few studies that focused on regions outside the core metropolitan and urban areas. They took a deeper look into regional geography of the knowledge economy and creativity by looking at peripheries, rural and remote areas within the U.S. and Canada (Hall & Donald, 2009; McGranahan & Wojan, 2007; McGranahan, Wojan, & Lamber, 2011; Petrov, 2007; 2008, 2011). Within the European context, studies of both favored and less favored areas based on labor districts have received considerable attention (Asheim & Hansen, 2009; Juhulainen & Suorsa, 2008; Lagendijk & Lorentzen, 2007; Suorsa, 2009).

Recent advancements in the studies of the innovation economies in the periphery have led to a debate pertaining to the role of creative capital in economic development in non-metropolitan regions. Many who studied creative capital and the attributes that affect it outside the MSAs have disagreed with Florida's approaches and methods (McGranahan & Wojan, 2007; McGranahan et al., 2011; Petrov, 2007, 2008, 2011). Others started to develop their own ideas about what are the best ways to measure creative capital and that which attracts it based on the region of study, whether it be the Canadian periphery or rural counties in the USA (McGranahan et al., 2011; McGranahan & Wojan, 2007; Petrov, 2007, 2008, 2011; Petrov & Cavin, 2012).

There has been a gap in the research on creative capital and "quality of place" factors in the non-metropolitan U.S., especially small and medium-sized cities and towns.

Florida (2002) focused primarily on U.S. major urban areas while McGranahan and Wojan (2007) explored counties across the U.S., especially rural counties. The gap that has been left is micropolitan statistical areas (μSA), which are defined as having a core-based statistical area with a population between 10,000 and 50,000 that has become the center of social and economic integration (U.S. Census Bureau, 2010). Therefore it is important to advance our understanding of the role of the creative capital (CC) in these regions and its effects on the degree of social and economic activities which may establish micropolitan areas as important players within the changing world and regional economies.

This study interrogates the role, characteristics and geography of creative capital within the micropolitan U.S. Midwest. The first objective is to analyze the characteristics, structure and spatial distribution of CC in the Midwest. The second objective is to identify factors that affect the presence of creative capital in micropolitan areas. The third objective is to determine whether the creative capital plays an important role in respect to innovation, knowledge production and economic development in a non-metropolitan context. I anticipate demonstrating that there is a connection between creative capital in Midwestern micropolitan areas, their socio-economic and geographic characteristics, knowledge base economy and economic growth.

CHAPTER 2

LITERATURE REVIEW

Throughout history regions and countries have been trying to answer the question of how to gain and maintain economic growth and stability. Some have been able to achieve this goal and hold onto it as the world continues to progress and be ever more connected. One important reason why some areas have been able to have successes with economic growth is through scale of production and region size (Markusen, 2004; Porter, 1990). However there are differences in how the scale of a regional economy affects its economic performance when it comes to economic growth. There are large scale economies that are used as bases for economic measurement at a global or national level. At this level economic processes and drivers maybe quite different from economic activities at a more localized scale (Storper, 1999). Therefore it is important to remember the significance of localized economic forces that help to spur large scale economic productivity within a region but also on the global market. Even within small scale economies further regional differences could be observed. The stylized approach is to focus on successful regional economies which would be those in large MSAs that would have a strong connection to the global market. Only few have looked at small rural or peripheral communities. Through investigating small scale localized economies one can see the challenges in promoting economic growth in rural communities (Petrov, 2007, 2008; Stolarick, Denstedt, Donald, & Spencer, 2010). Rural and periphery

communities and regions develop differently than large MSAs that were traditionally looked at for economic growth (Petrov, 2011; Storper, 1999).

Since economic development and growth is significant at all scales of the economy, an increasing amount of literature is focusing on what factors affect economic development in the post-Fordist globalizing capitalist world. One avenue to explore this subject is by studying innovation and knowledge production (Audretsch & Kielback, 2006; Barkely, Henry, & Lee, 2006; Florida, Mellander, & Stolarick, 2008; Storper, 1999). Researchers have pointed out the importance of innovation and knowledge development as key to economic growth (Audrestsch, 2003; Audrestsch & Keilback, 2006; Barkely, et al., 2006; Bell, 1973; Beyers & Lindahl, 2001; Feldman, 1994, 2000; Lagendik & Lorentzen, 2007; Romer, 1990). Literature points out that with the growing importance of knowledge and innovation to economic expansion there are several aspects that are especially notable. One important factor is that innovation and knowledge is not just free floating (or placeless), but deeply embedded and entrenched in places (Grabher, 1993; Storper, 1997). The embedding of knowledge production is not accidental. The recognition of the role of knowledge externalities has led to the emergence of geographic space as a crucial platform for innovation activities (Audrestsch, 2003; Storper, 1999). Through the role of knowledge and innovation as a key for economic development in today's spatial economy, competition between regions for access to creative capital has become critical (Florida et al., 2008; Petrov, 2010; Porter, 1990).

Such competition in the conditions of the knowledge-based economy is believed to cause a growing difference between core regions and peripheral and rural regions in terms of economic development. Audretsch (2003) points out that regional networks are key to sources driving innovation activity, which leads to further growth and development in more connected regions. Large urban city regions or MSA have been able to capitalize on the competitive advantage and networking while rural areas have suffered from lost opportunities (Audretsch, 2003). Many factors contribute to why rural areas seem to be unable to gain from innovation and knowledge production to increase their economic productivity. Rural areas have been affected by lacking high skilled occupations and jobs, out-migration of educated people, and lack of specialization in high innovation and knowledge production firms and jobs. These tendencies have all added up to the absence of innovation and knowledge in rural regions and communities (Bourne, 2002; Gradus & Lithwick, 1996; Lagendik & Lorentzen, 2007; Markusen, 2004; Southcott, 1998; Stroper, 1999; Wojan, 2000).

Since many rural and peripheral regions are connected to resource and public sectors, it is not uncommon for them to develop a culture of dependency that does not bring in innovation or forms of knowledge production (Petrov, 2008; Polese, Shearmur, Desjardins, & Johnson, 2002; Surosa, 2009). Without local firms there is a disconnection within communities and networks of practice which prevents the attainment of tacit knowledge that is critical to economic growth (Gertler, 2005; Lagendilk & Lorentzen, 2007; Petrov 2011). This then creates a branch plant culture in which entrepreneurship and innovation have minor roles, being dependent on externally located headquarters

(O'Hagan & Cecil, 2007). This then weakens a region's capability to create its own path of innovation and knowledge production (Petrov, 2011). This leads to the notion of path dependency, i.e. is the persistence of historically and socially embedded organizational trajectories that lead towards increasing productivity and competition (Bathelt & Glucker, 2003; Lundvall, 1992).

However, some recent studies demonstrate that there are examples of rural communities that through entrepreneurial and service sectors were able to bring in earnings from outside areas that contribute to the economic base and their capabilities to develop a successful diverse economy (Boschma, 2005, Beyers & Lindahl, 2001; Gradus & Lithwick, 1996). Petrov (2007, 2008, 2011) identified creative 'hot spots' within peripheral regions of Canada. These areas are found to have the potential to attract creative capital and compete nationally. These communities are places where creative potential is high, and where the community put forth efforts to embrace new economic paths or even create their own trajectories to more fruitful economic activities. In order for peripheries and rural regions to develop into these so called 'hot spots' of innovation and economic growth there has to be a connection to localized knowledge and traditions that can be formed with institution building and formation of civic society. This is to a degree determined by the endogenous environment of the knowledge based economy. With this link there is a tight relation to creative capital and other forms of societal capital in rural and peripheral regions (Aarsaether, 2003; Petrov, 2011, 2012).

Since it is established that innovation and knowledge-based production are important to economic growth, the multiple methods developed to measure them have raised even further debates within the academic world. There are four main ways to measure the extent of knowledge economy: research and development, firms and investment dollars (Audretsch, 2003; Stroper, 1999), patents (Barkely et al., 2006; Boschma & Fritsch, 2009) human capital or education levels (Florida, 2002; Glaeser, 2004; Wojan, 2000) and the final measure is through occupation or creative capital (Florida, 2002; Hoymand & Faricy, 2009; Markusen, 2004; Petrov, 2007). Literature suggests the measuring of creative human capital is one of the most effective ways to measure the link of innovation to economic development. Research and development, or creation of firms, requires humans to create these types of knowledge and innovation. Patents portray a similar context in that it takes creative or educated people to produce the knowledge and innovations that affect a region's economic growth and development (Barkely et al., 2006; Boschma & Fritsch, 2009; Florida, 2002; Glaeser, 2004; Knudsen, Florida, Stolarick, & Gates, 2008; Lagendik & Lorentzen, 2007; Markusen, 2004; McGranahan & Wojan, 2007). Attracting creative people to a region is important for regional development and growth due to the shown connection between education and occupation measures and economic expansion (Florida, 2002; Glaeser, 2004; McGranahan & Wojan, 2007; McGranahan et al., 2011; Petrov, 2008; Wojan, 2000).

The literature has shown the evidence of the importance and connection between education and creative occupations (creative individuals) and economic growth and development (Boshma & Fritsch, 2009). However, there is a dispute regarding what

economic indicators are more appropriate to use in measuring economic growth. Glaeser (2004) is a strong advocate for the education level measurement in connection with innovation and economic development. Human capital (educational attainment) is a stronger predictor of economic development of a region or cities then either creative capital or social capital. Increased educational investment may be the winning strategy rather than attracting creative occupations for cities in knowledge based economies (Hoymand & Fraicy, 2009). Florida (2002, 2005, 2012) developed the theory of creative class which looks at creative people that power economic growth within regions. It views creative occupations or creative class to be the more appropriate route to take in measuring knowledge economy. Occupation based indicators provide a potentially more robust measure of human capital capable of capturing what is missed by educational measure and important to economic growth (Florida et al., 2008; Mellander & Florida, 2006). There has been a study done within seven European countries that provides no clear answer to which method of measuring innovation was best (Boschma & Fritsch, 2009). However, there have been other studies that looked at the two or more indicators in a combined effort to enhance innovation and growth within a region (Boshma & Fritsch, 2009; McGranahan & Wojan, 2007; McGranahan et al., 2011; Petrov, 2007, 2008).

Even within the literature on creative capital theory there is a disagreement over how to apply it to different geographical regions. Richard Florida's (2002) work has led to the creative capital 'hype' in which many regions and urban centers have used to apply to enhance economic growth and development. In his work he focused primarily on

MSAs within the United States due to the fact that the distribution of talent is an important factor in economic geography but it is unevenly distributed geographically.

Given the multiplicity of geographic contexts within the world-economy, others have developed and adopted the theory of creative capital to be more applicable to other types of regions. Gertler et al. (2002) adopted Florida's creative class and applied it to Canada city regions. Research that has been done in European countries has noted that Florida's definition of creative class is not suited for their regional context (Asheim & Hasen, 2009; Boschma & Fritsch, 2009). Ashiem and Hasen (2009) even reframed creative class within groups of types of knowledge production rather than types of creative occupation classification as Florida (2002) did. McGranahan and Wojan (2007, 2011) who studied rural counties did not use certain occupations in education, healthcare and legal, that were originally classified as creative class in an urban context. The studies remove them because the authors believed that excluding them would better represent the creative class as a whole, but more importantly for a rural context. They also used both education and creative occupation to test economic development and how they are related to each other (McGranahan & Wojan, 2007; McGranahan et al., 2011).

Among studies which focused on rural and remote areas, the use of entrepreneurial capital plays an important role in the connection to creative capital and economic development. There have been only a few studies that had a non-metropolitan focus. The studies devoted to rural or periphery communities changed the occupations used in defining the creative class. Educational attainment is also seen as an important

factor and is used with creative capital rather than as a separate measure for innovation and economic growth within the peripheries (Petrov, 2007, 2011).

When creative capital based indicators were first used as a way to measure innovation and economic growth, Florida (2002) utilized three main components to measure of attractiveness to the creative class or also known as "quality of place." "Quality of Place" is referred to as unique characteristics that help to define a place that makes it attractive. There are three main factors that are traditionally considered. These three factors that are believed to attract the creative class are tolerance, technology and talent, also known as the three T's (Florida, 2002). Just as with creative class, there is a disagreement in respect to the three T's among scientists who suggest how to measure CC presence in different regions (Asheim & Hasen, 2009; Hoymand & Faricy, 2009). Several other factors have been noted and were used to measure what affected creative capital. In the wider context of factors that affect the creative class, research has looked into amenities or service sectors industries, proximity, population density, universities, tolerances or openness (to minorities, women leadership, and gay and lesbian population; Florida et al., 2008; Lagendik & Lorentzen, 2007; McGranahan & Wojan, 2007; Mellander & Florida, 2006; Petrov, 2007; Stolarick et al., 2010). For the purposes of studying rural regions researchers have looked especially at landscapes, out-door amenities, tourism, entrepreneurship, cultural and historical features, and proximity to urban centers (McGranahan & Wojan, 2007; McGranahan et al., 2011; Stolarick et al., 2010).

The review of existing literature on creative capital provides clear evidence of the further need to define and measure this phenomenon and understand how it is connected to innovation and economic growth and development especially in non-metropolitan areas. The collected writings focused on either metropolitans or to a much lesser extent rural countries leaving a gap in the examination of CC at a different geographic level. The main goal of this study is to identify the role, characteristics, and geography of creative capital in micropolitan statistical areas (μSA). There is also a need to see what affects or attracts the presence of creative capital (CC) to micropolitans and how it is connected. Not only is there a need to see how attractiveness factors and CC are connected, but also to analyze the relations of CC relationships to knowledge, innovation and economic growth within micropolitan areas.

CHAPTER 3

METHODOLOGY

Study Area

The study area for this research is the U.S. Midwestern states. U.S. Census Bureau definition of the Midwest is twelve states, which include: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. These 12 states have a population of 66,927,001 in 2010 (Census Bureau). Within the Midwest region there are 292 MSAs and µSAs. Since this study looks at micropolitan areas within the U.S. Midwest there are 190 core statistical areas classified as µSA. The micropolitan statistical area is defined by the U.S. Census Bureau (2010) as a core area containing a substantial population nucleus of 10,000 to 50,000 together with adjacent communities having a high degree of social and economic integration within that core.

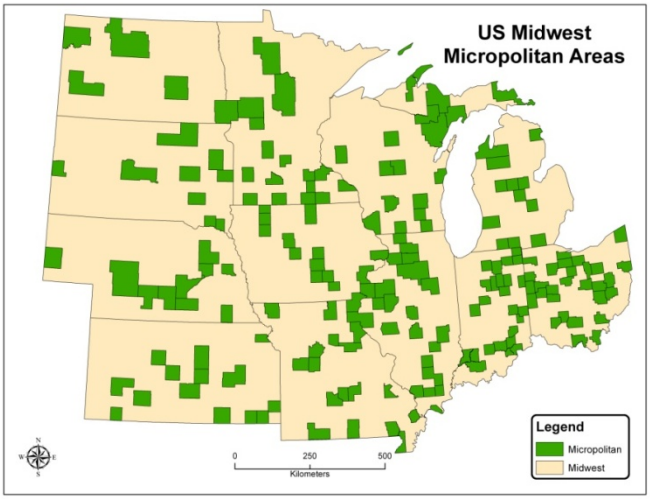

Figure 1. Location of µSA in the U.S. Midwest

Methodology

Research recently conducted in the rural and periphery settings indicates that Florida's (2002) traditional methodology of analyzing creative class would not be best suited for non-metropolitan areas (McGranahan et al., 2011; McGranahan & Wojan 2007; Petrov, 2007, 2011; Petrov & Cavin, 2012). Regional growth and prosperity depends on the possession of a specific qualitative type of human capital based on creative class occupations know as creative capital (Petrov, 2007). Creative Capital is a driving force of a region's innovation and knowledge potential (Florida, 2002, 2012; McGranahan & Wojan, 2007; Petrov, 2007, 2008). Creative Capital (CC) is the stock of human creativity that has an economic value (Florida, 2002, 2012; Petrov, 2007, 2008; Petrov & Cavin, 2012).

Creative Capital Metrics

Following Petrov (2007, 2008) this project considered four groups of creative occupations that constitute the creative capital (CC): technology workers (applied scientists), bohemia (artists, craftsmen, etc.), leaders, and entrepreneurs. As it had been pointed out, these four occupation groups represent the creative class in the most appropriate way within the periphery. CC metrics also included a traditional measure of talent (a measure of educational attainment). McGranahan and Wojan (2007) used a different approach to reclassify the existing creative group defined by Florida (2002, 2005) by eliminating certain groups from the creative class. The reason for doing this was to recast creative class based on the high creativity requirements from the O*NET (Occupational Information Network). Based on their results, they concluded that their

reclassified creative class indicators was better suited to rural and periphery economic growth than Florida's traditional measures (McGranahan & Wojan, 2007).

Overall, the creative capital metrics in this study represent a combined and modified version of metrics used by Petrov (2007) in peripheral Canada and McGranahan and Wojan (2007) in rural U.S counties. Following Petrov (2007) and McGranahan and Wojan (2007) classification of creative capital health care and education occupations were excluded from the CC metric. The reason for this was based on the premises that these occupations groups inflate the creative capital in the region. This study introduced one major modification. In addition to the four groups used by Petrov (2007) this study introduced an additional fifth occupation based indicator to the CC metric. The fifth group consisted of life and physical scientists, social scientists and related workers, and lawyers to create the social sciences index or SSI. The reason for the inclusion of this group into the CCs metrics was the important role that these occupations play in helping to find creative solutions to problems associated with economic development processes in non-metropolitan areas (McGranahan & Wojan, 2007). Creative Capital within the context of this research was classified by five occupational groups (Leadership, Entrepreneurial, Applied Sciences, Social Science, and Bohemia indices) and measured by six indicators with the addition of Talent index.

"Quality of Place" Indicators

The second component of this study of CC was the development of the "quality of place" indicators. "Quality of Place" is referred to as unique characteristics that help to

define a place that make it attractive. Existing research proposed many different types of factors that can affect a place's attractiveness to the CC (Florida, 2002, 2005; McGranahan et al., 2011; McGranahan & Wojan, 2007; Petrov, 2007, 2008, 2011). Different variables were taken into consideration in what attracts CC to μSA which included social diversity, openness, tolerance, and basic amenities.

The important demographic measure was population density, since high density increases the chance for personal interaction which could lead to knowledge and innovation to be transferred (Knudsen et al., 2008). Knowledge spillover is an important part of innovation and knowledge production (Bathelt & Glucker, 2003; Gertler, 1995). Measuring proximity or distance between communities and to MSAs is considered and is a critical indicator of attractiveness (Knudsen et al., 2008; McGranahan & Wojan, 2007).

Tolerance is the acceptance of and openness to individuals, groups of people, and new ideas. Tolerance has been viewed as an important characteristic in attracting and maintaining a strong presence of CC (Florida, 2002). It is a measure of attractiveness through social diversity and degree of openness that helps to insure the notion of a 'low barrier of entry' which is viewed as attractive to the creative class workers (Florida, 2002; Gertler et al., 2002). In order to measure tolerance and openness of a community this study used the Women Leadership Index (WLI), Visible Minority Index (VMI), and Mosaic Index (MI; Table 1).

Economic development strategies in non-metropolitan areas differ greatly from those in large MSAs, and it is important for these communities to recognize the various

ways in which the communities are able to promote growth (McGranahan & Wojan, 2007; Morgan, 1997; Stolarick et al., 2010). One way communities have seen the expansion of economic growth is through tourism (McGranahan & Wojan, 2007; Reeder & Brown, 2005; Stolarick et al., 2010). Tourism helps promote community amenities which can be a key component in helping to attract creative people. These amenities can be defined as services, entertainment, recreational amenities, 'artistic havens,' and cultural and historic features. Amenities can help to support a vital tourism community that can attract long-term residents with creative potential (Aarsaether, 2003; Florida, 2002; Stolarick et al., 2010). Not only tourists are attracted to the amenities and "quality of place" provided though tourism industry, but creative workers are also (Beyers & Lindahl, 2001; Florida, 2002; Stolarick et al., 2010; Swenson & Eathington, 2003). This research measured the location quotient of amenities through employment in arts, entertainment, recreation, accommodation, and food service sector as defined by the U.S. Bureau of Labor.

Studies of single industry towns and periphery regions in Canada (O'Hagan & Cecil, 2007; Petrov, 2011) have demonstrated that resource dependent communities showed less innovation and knowledge production. Some argue that this is due to the fact that these communities lack CC and are unable to embark upon new paths of economic development (Petrov, 2007). Therefore it is important to measure the dependence of these non-metropolitan communities to natural resources (agriculture, forestry, and mining) and manufacturing industries. The industries are measured using LQ of resources and manufacturing industries employment (Table 1). They will also be

used in the correlation analysis to see if they have a stronger significance on communities CC potential in a negative or positive way.

Indices of Innovation and Economic Potential

The next important task was to measure how CC was connected to technology production, innovation, and economic growth. One way was to look at whether CC occupations were correlated with technology driven industries such as information, professional scientific management, and administration industries as based on the Milken Institute's Tech-Pole Index or TPI. TPI is a composite measure based on the LQ of national high-technology industries' employment in the community (Florida, 2002). Another way to measure the relationship of CC to innovation and knowledge production is though patents. Patents are seen as a main type of innovation and knowledge production (Barkely et al., 2006; Boschma & Fritsch, 2009; Knudsen et al., 2008). In this study, patents were measured by the average number of patents registered in a μSA over a five years period from 2005 to 2010. Economic well-being was measured through average per capita income and poverty rate (Florida, 2002; Hoymand & Faricy, 2009).

Quantitative Analysis

After all the CC indices and "quality of place" measures based on location quotient had been calculated (as defined in Table 1) the first objective for the analysis was to compare the overall and individual variables among the μSAs. A cumulative and indicator specific ranking based on CC indices was conducted to see which communities were creative 'hot spots' or 'not so hot' in regards to CC. The cumulative ranking was

then based on equal weight distribution of CC indicators (TI, LI, EI, ASI, SSI, and BI). This was also done for the "quality of place" factors to find out whether certain communities had the potential or were already attracting CC. The cumulative rankings of CC and "quality of place" measures for the whole of Midwest µSA and MSA were conducted in the same manner as rankings for µSA. This was to compare µSA to MSA in terms of CC and ability to compete in respect to attractiveness.

In addition to the CC rankings, they were then compared to rankings based on Richard Florida's original metrics and recast CC. This was necessary to firstly understand the differences and secondly, to assess which methodology was better suited for µSAs. Richard Florida's creative class includes: computer and mathematical occupations, architecture and engineering occupations, life, physical and social science occupations, education, training and library occupations, arts, design, entertainment, sports and media occupations, management occupations, business and financial occupations, legal occupations, health-care practitioners and technical occupations, and high-end sales and sales occupations (Florida, 2002, 2012). The recast creative class includes management occupations excluding farmers, accountants and auditors, computer and mathematical occupations, architecture and engineering occupations, life and physical scientists, social scientists and related workers, lawyers, post-secondary teachers, librarians curators, and archives, arts, design, entertainment, sports and media occupations, and high-end sales occupations (McGranahan & Wojan, 2007; Stolarick, Matheson, & Brydges, 2012). Both were calculated for µSA and MSA across the Midwest. The recast creative class is a version of creative class that excludes some

occupations that are found in every major urban area such as health care providers and educators. The recast creative class is similar to CC metrics used in this study but it does not have TI and utilizes a slightly more general occupations groupings.

CC (as measured in this study), Florida's creative class, and recast creative class rankings were not only compared to each other but also to the super creative core and creative professionals sub-grouping of Florida's creative class (Florida, 2002, 2012). The super creative core (computer and mathematical occupations, architecture and engineering occupations, life, physical, and social science occupations, education, training, and library occupations, and arts, design, entertainment, sports, and media occupations) represents those in creative work that produce or design new products that can be manufactured, sold and used. They are problem finders and solvers. Creative professionals (management occupations, business and financial occupations, legal occupations, health-care practitioners and technical occupations, and high-end sales and sales occupations) are people engaged in problems solving, drawing on their knowledge to solve specific problems. The comparison gave an understanding of which technique measuring creative human capital better represents creative capacities in μSA based on overlap to super creative core and creative professionals.

The next step was to perform correlation analysis and regression modeling in order to establish a relationship among CC indices and identify CC indicators and "quality of place" that were correlated. The purpose of correlation analysis was to cross validate the metrics and to test the relationship between the CC metric, "quality of place,"

innovation output, and economic potential. The regression analysis which was used was a backwards regression stepwise model. The regression analysis was used to examine further relationships among the CC indicators. It was designed to show which individual CC measures had the strongest or least connection with other CC. Earlier studies had found a relationship between CC metrics (Boschma & Fritsch, 2009; Florida 2002, 2005; McGranahan & Wojan, 2007; McGranahan et al., 2011; Petrov, 2007, 2008, 2011). Regression analysis was also conducted between single CC indicators as the dependent variables and "quality of place" measures as the independent variables. This was done to help explain which "quality of place" measures had the greatest impact on CC presences in μSAs. The present study also identified differences of μSAs in the Midwest from MSAs. It is important to remember that correlation and regression analysis are not perfect forms of measurement and some discretion is needed when interpreting the results.

Further analysis utilized the metrics to describe the geography of the CC metric in μSAs by identifying clusters for the CC. There were two steps in the cluster analysis, first agglomerative clustering and second k-mean clustering. The agglomerative clustering was used to establish a group hierarchy of the μSA based on the CC indicators. This showed the potential number of clusters μSAs could be grouped into. The k-means method used next was to identify the groupings of μSAs based on the CC indicators (Petrov, 2011; Virkkala, 2007).

Principal Component Analysis (PCA) was further used to examine the possible interrelationship between CC indices and technology production, innovation, and economic growth. The PCA was used to help to explain the variance between CC and technology production, innovation, and economic potential measures and to find the latent vectors. Even with the limited number of variables PCA was still an important tool to understand the relationship of CC to technology production, innovation, and economic growth along with the further interrelationships of CC (Knudsen et al., 2008; Petrov & Cavin, 2012).

Community Interviews – Success Stories

The last component of this study was designed to provide a deeper understanding of the process by which CC affects μSA and improves the overall knowledge of CC. This research employed a qualitative analysis, which included two key informant interviews of two successful μSAs communities. The communities were seen as success stories, i.e. communities that had demonstrated the ability to achieve economic well-being and development through engaging CC. The communities were deemed successful based on their CC LQs and overall CC ranking out of all the μSA communities. The two communities represented are Pella, Iowa and Oskaloosa, Iowa

The interview in Oskaloosa was conducted with two key informants: a city manager and a representative of the regional economic developers. The Pella interview was conducted with one participant, an executive from the Chamber of Commerce. The informants were found through the cities' websites. Contact was then made through

email and the interviews were also scheduled and confirmed through email. The two semi-structured interviews were done in person and each interview was roughly 60 to 90 minutes in length (Appendix I for questions). For the purpose of the study and record keeping the interviews were recorded with permission from the interviewees. The reason for choosing these officials was because they are knowledgeable of the community's economic development and overall well-being. They are self-designated first point of contact when it comes to communities and what is happening within the local area, given their employment responsibilities. They had a deeper understanding of the economy, development, innovation, amenities, and cultural capital then the average resident.

These interviews helped to find out what the communities have done and are doing in order to attract creative and talented people to the area, and what incentives are there for them to stay in the community. During the interview the questions were asked about the economy in regards to companies, firms, and CC already in the community, attractiveness factors for the community to companies, firms, and employees especially CC, company success stories and challenges the community faces in economic development and social well-being. These semi-structured interviews provided a further look into the communities' economic development, which could possibly lead to attracting CC to the area.

Table 1

Creative Capital and "Quality of Place" Metrics

Measures	Construct to be measured
Creative Capital metrics	
Talent Index (TI) is a location quotient (LQ) of the population over 16 years who have a university degree (U.S. Census American Fact Finder)	Level of formal education of the labor force
Bohemian Index (BI) is a location quotient of the employment in artistic and creative occupations: "Art and Culture" (U.S. Census American Fact Finder Arts, Design, Entertainment, Sports, and Media Occupation).	Creative capital: 'bohemia'
Leadership Index (LI) is a location quotient of people with leadership and managerial occupations (American Fact Finer Management Occupation).	Creative capital: leadership
Entrepreneurship Index (EI) is a location quotient of people with business occupation (U.S. Census American Fact Finder Business and Financial Operations Occupation).	Creative capital: entrepreneurship
Applied science Index (ASI) is a location quotient of people with applied science occupations (U.S. Census American Fact Finder Computer and Mathematical, Architecture and Engineering Occupations).	Creative capital: 'applied scientists'
Social Scientist Index (SSI) is a location quotient of people with social scientist occupation (U.S. Census American Fact Finder Life and Physical Scientists, Social Scientist and Related Workers, and Lawyers)	Creative capital: 'social scientist'
Measures of "quality of place" (characteristics of attractiveness to the creative class)	
Mosaic Index (MI) is a location quotient of the total population that is foreign-born (U.S. Census American Fact Finder).	Society's diversity
Visible Minority Index (VMI) is a location quotient of visible minorities in total population (U.S. Census American Fact Finder).	Society's diversity
Women Leadership Index (Feminist) Index (FI) is a location quotient of women in managerial (leadership) occupations: percent of Female in Management Occupations (U.S. Census American Fact Finder).	Society's openness, "low barriers of entry"
Population density of the community	Population Density
Amenities is LQ of employment in the occupations unique for services, entertainment, recreational amenities, and also for its cultural and historic features (U.S. Census American Fact Finder Industries Sector)	Amenities

Continued

Measures	Construct to be measured
Resource-dependency Index (RDI) is a LQ of employment in the occupations unique for the primary sector of natural resources or agriculture (U.S. Census American Fact Finder Industries sector agriculture, mining, and forestry).	A degree of resource-reliance
Single Industry Index (SI) is a LQ of employment in the occupations unique for the primary sector of manufacturing industry (U.S. Census American Fact Finder Industries sector in manufacturing)	A degree of single industry town reliance
Measure of innovation, technology production and economic prosperity	
Tech-Pole Index (TPI) is a LQ of the employment in high technology sectors (NAICS American Fact Finder, Information and Professional, Scientific and Management and Administration)	Specialization in technology sectors
Patents Index the number of patents created within the community with the last five years (U.S. Patent office of Statistics)	Specialization in innovation production
Per capita individual income (U.S. Bureau of Economic Analysis per capita personal income)	Economic Prosperity
Poverty is the LQ of the total population that falls below the poverty line (U.S. Census American Fact Finder)	Economic Prosperity

Note: The formula for calculating a location quotient (LQ) is: $LQ_i = \frac{\lambda_n}{\lambda_C}$,

where LQ_i is a location quotient of phenomenon i (occupation, education, etc.), λ_n is the share of population having the measured characteristic *i* in region *n* and λ_C is the share of population having the same characteristic in the reference region (USA).

CHAPTER 4

RESULTS

Spatial Characteristics and Distribution of µSA Across the Midwest

This section examined µSA across the Midwest region. States in the Midwest had different numbers of µSAs, which play a diverse role in the state's economic and population structure. µSAs spatial location also made a difference in the importance it had in a given state. Population characteristic of µSAs varied from state to state. µSAs in the Midwest ranged from five in North Dakota to 29 in Ohio. Overall there were 8,882,210 people that lived in µSAs throughout the Midwest region in 2010. They ranged in populations from Vermillion, South Dakota with a population of 13,916 to Ottawa-Streator, Illinois with a population of 154,854. The average population of µSAs across the Midwest was 47,980. The total population that lived in µSA accounts for 13.3% of the total population in the region. The state share of µSAs population varied from Illinois at 8.3% to South Dakota at 27.8% (Table 2).

The µSA seemed to cluster in the eastern half of the Midwest, and as one moves further west they become more dispersed. This was observed for both MSA and µSA. However, in states further west such as North and South Dakota, Nebraska, and Kansas, µSA make up the majority of core statistical areas (Table 2). States with larger populations also had a tendency to have more core statistical areas then states with lower population causing them to have higher number of µSA, which however, did not constitute the majority of core statistical areas (Table 2).

Table 2

Population Distribution across the Midwest

Population Distribution									
State	Total Pop	Urban Pop	Urban %	MSA Pop	MSA %	µSA Pop	µSA %	Rural Pop	Rural %
IL	12830632	12222213	95.26	11159069	86.97	1063144	8.29	608419	4.74
IN	6483802	6115637	94.32	5078745	78.33	1036892	15.99	368165	5.68
IA	3046355	2239616	73.52	1721714	56.52	517902	17.0	806739	26.48
KS	2853118	2440146	85.53	1949124	68.32	491017	17.21	412972	14.47
MI	9883640	9112972	92.20	8033066	81.28	1079906	10.93	770668	7.80
MN	5303925	4648586	87.64	3971551	74.88	677035	12.76	655339	12.36
MO	5988927	5178937	86.48	4440464	74.14	738473	12.33	809990	13.52
NE	1826341	1475721	80.80	1071368	58.66	404353	22.14	350620	19.20
ND	672591	479759	71.33	325418	48.38	154341	22.95	192832	28.67
OH	11536504	11022574	95.55	9299425	80.61	1723149	14.94	513930	4.45
SD	814180	595359	73.12	369042	45.33	226317	27.80	218821	26.88
WI	5686986	4911763	86.37	4142082	72.83	769681	13.53	775223	13.63
Total	66927001	60443283	90.31	51561068	77.04	8882210	13.27	6483718	9.69

Analysis of Individual CC Indicators

The first step of the analysis examined the CC metric and each individual measure of creative capital. Individual CC indicators for µSA were ranked based on their location quotient (LQ). The CC measures were then mapped based on their LQ to understand the location and spatial patterns of µSA across the Midwest region.

Talent Index

Twelve µSA communities had TI above one, while 28 µSA had a LQ in the range of 0.99 to 0.8. Among the top 20 communities with the strongest TI, five were located in South Dakota; another quarter was located in Michigan (Table 3). Notably many of the top 40 had an institute of higher learning located there. For example, University of South Dakota in Vermillion, SD, South Dakota State University in Brookings, SD, Southern Illinois University in Carbondale, IL, just to name of few. TI in µSA reflects a concentration of educated professionals, and it clearly benefited from the presence of a university or college. However, there were 36 communities that had an LQ below 0.5. Many of this µSA were located throughout the states of Ohio, Indiana, Illinois and Missouri as can be seen in Figure 2.

Leadership Index

Occupations representing leadership in government and upper management had a strong presence across µSA communities in the Midwest (Figure 3). There were 30 µSAs that had LI above one. There were another 93 µSAs that had a LQ between 0.99 and

0.80. There were no communities that had LI below 0.5. However, μSA communities in North and South Dakota, Kansas, and Minnesota seemed to have a higher presence of LI than in states like Ohio, Indiana, Missouri, and Nebraska (Table 3). The reason that many μSA communities had a strong presence of LI could be that they are often times the largest community in the county and the county seat. Being the county seat, μSA serve as administrative centers. In the one case Pierre, SD is the state capital and had an even greater presence of people in leadership and management occupations than most MSAs.

Entrepreneurial Index

Entrepreneurial capital did not have a strong presence in μSA. There were only four communities that had an EI above one (i.e. matching the U.S. average). Another 18 μSA had EI between 0.99 and 0.80. There were 47 out of 190 μSA that had EI below 0.5 this demonstrated the relative lack of entrepreneurial capital. The top 20 of EI had many of the same μSAs as TI and LI top 20 (Table 3). With so many of the same μSAs ranked as the top communities, CC had a tendency to cluster. Some of these μSAs were Pierre, SD, Midland, MN, Monroe, WI, and others. Spatially communities with strong presences of people with entrepreneurial occupations were spread evenly throughout the Midwest region and were often associated with regional centers (Figure 4). Entrepreneurs like those in leadership occupations tend to gravitate to regional centers or μSAs that have larger economic and social integration with surrounding communities.

Applied Science Index

Applied Science occupations in µSA were generally low. Out of 190 communities only six had a rating greater than one and 13 more µSAs had ASI between 0.99 and 0.8. This left 171 µSA with an ASI below 0.79. Among the 171 communities 93 had ASI of 0.5 or below. Spatially, there seem to be a few clusters of high rating of ASI in µSAs around MSAs such as Minneapolis, MN, Des Moines, IA, Indianapolis, IN, and Columbus, OH (Figure 5). There are other areas that stand out in respect to ASI: Upper Peninsula of Michigan and South Dakota (Table 3). Many individual µSA that stand out with high ASI were the industrial communities of the American manufacturing belt. However, they are not traditional manufacturing centers but leaders within the industry creating new and innovative products.

Social Science Index

SSI like ASI also had a relatively weak showing in µSA across the Midwest (Figure 6). There were only six communities with a LQ higher than one, and 12 additional µSA with a LQ in the range of 0.99 and 0.80. There were 98 µSA that had a SSI below 0.5. There were many of the same µSAs in the top 20 based on SSI as compared to the other CC indicators, such as Midland, MI, Brookings, SD, Houghton, MI and others (Table 3). Spatially SSI had a fairly close resemblance to TI across the Midwest. Communities that had either an institution of higher learning or with a higher occurrence of educated individuals seemed to have higher presence of SSI.

Bohemia Index

Ten μSA communities had a high presence of cultural capital in the form of BI. Another 26 μSAs had a BI in the range of 0.99 to 0.8. Still 75 μSAs had a BI below 0.5. There was a stronger presence of cultural occupations in μSA across the states of South Dakota, Michigan, Minnesota, Wisconsin, and Missouri then the other states but not significantly (Figure 7). The top 20 μSA in terms of BI are similar to top 20 μSA in other CC indicators (Table 3). There were several communities in the top 20 BI that did not appear on other CC top lists, for example Branson, MO, Warsaw, IN, Mount Vernon, OH, and Frankfort, IN. Most of the communities with higher BI were university and college towns. This indicates that even the presence of smaller colleges could mobilize a community's cultural capital.

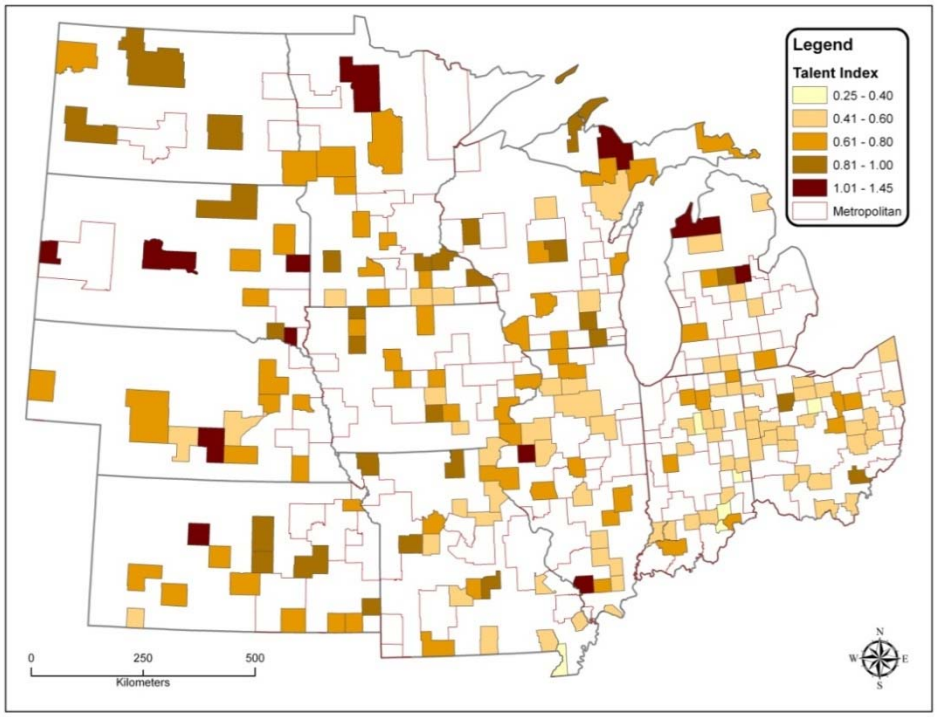

Figure 2. Talent Index

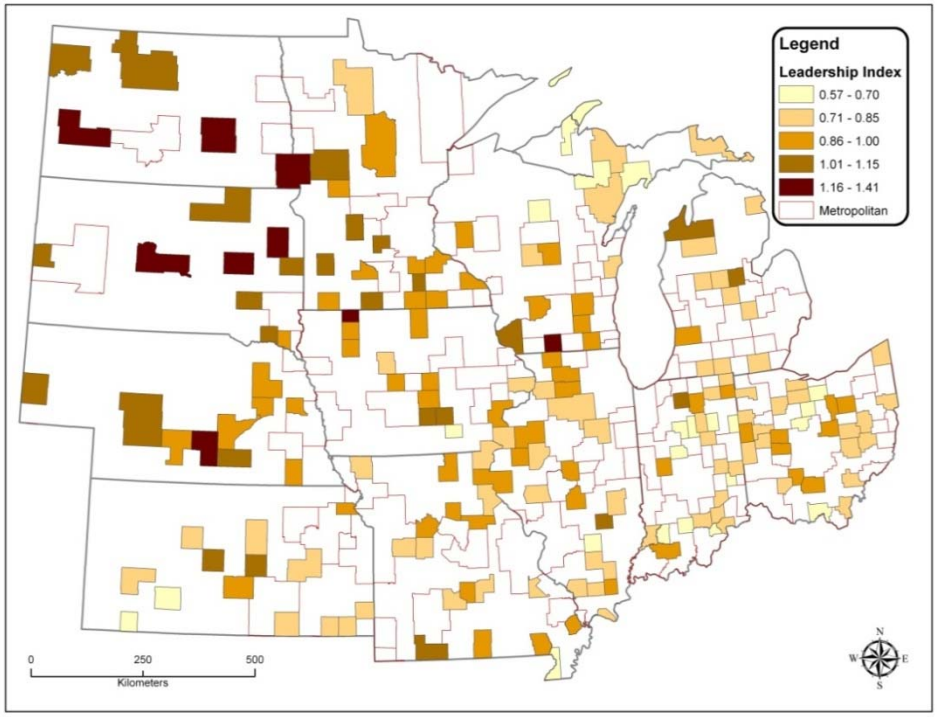

Figure 3. Leadership Index

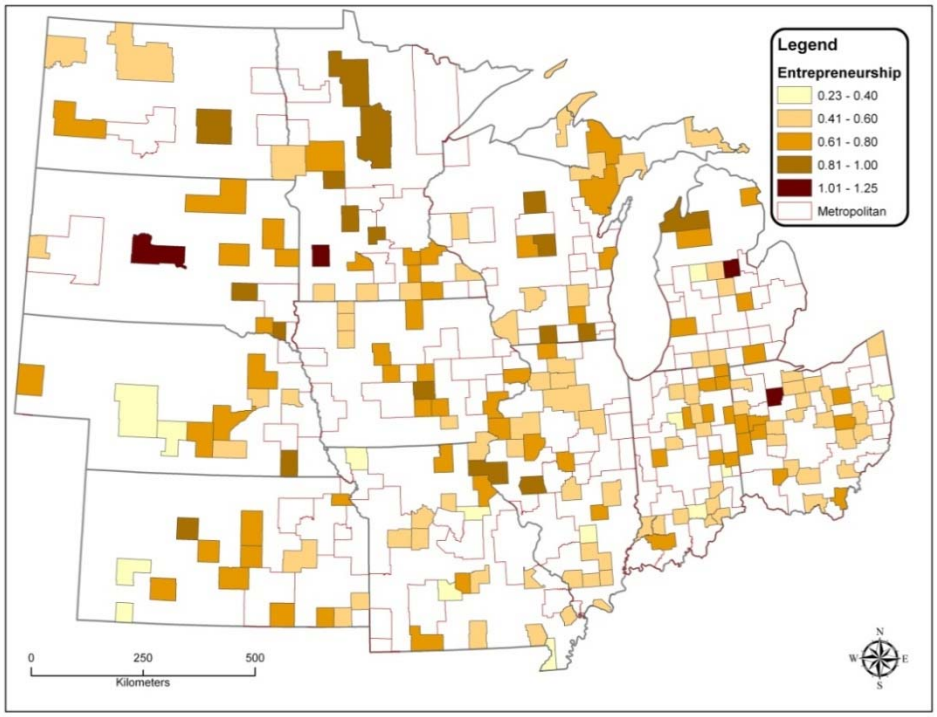

Figure 4. Entrepreneurship Index

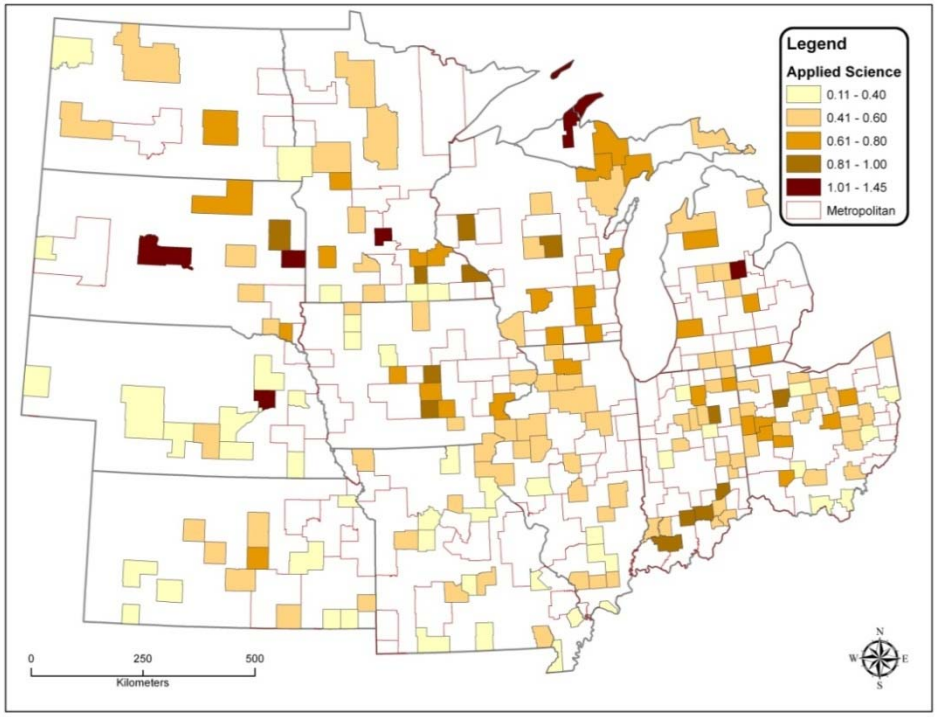

Figure 5. Applied Science Index

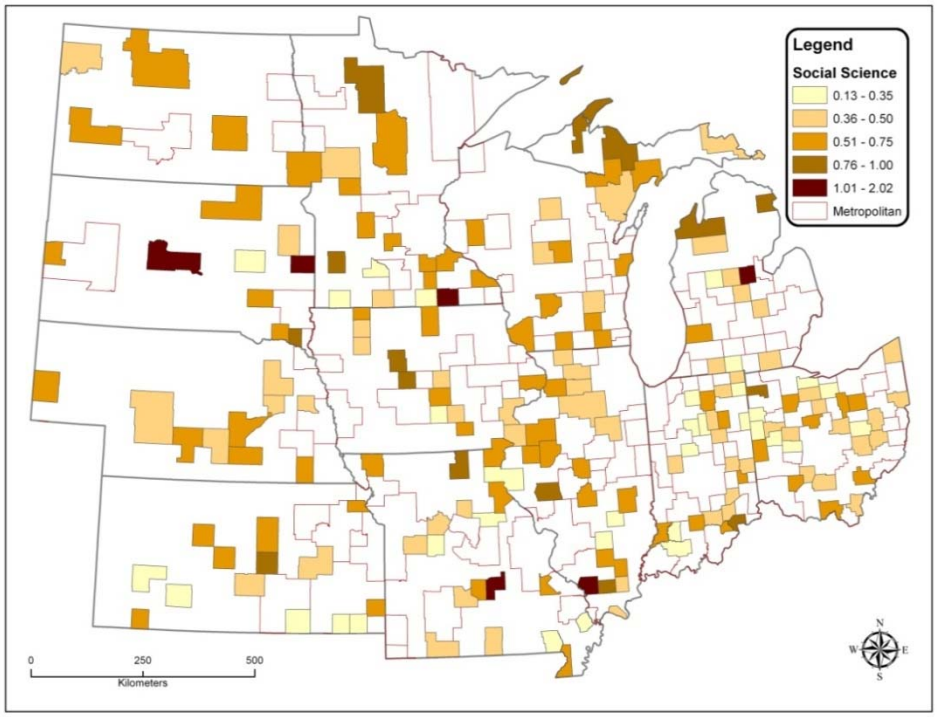

Figure 6. Social science Index

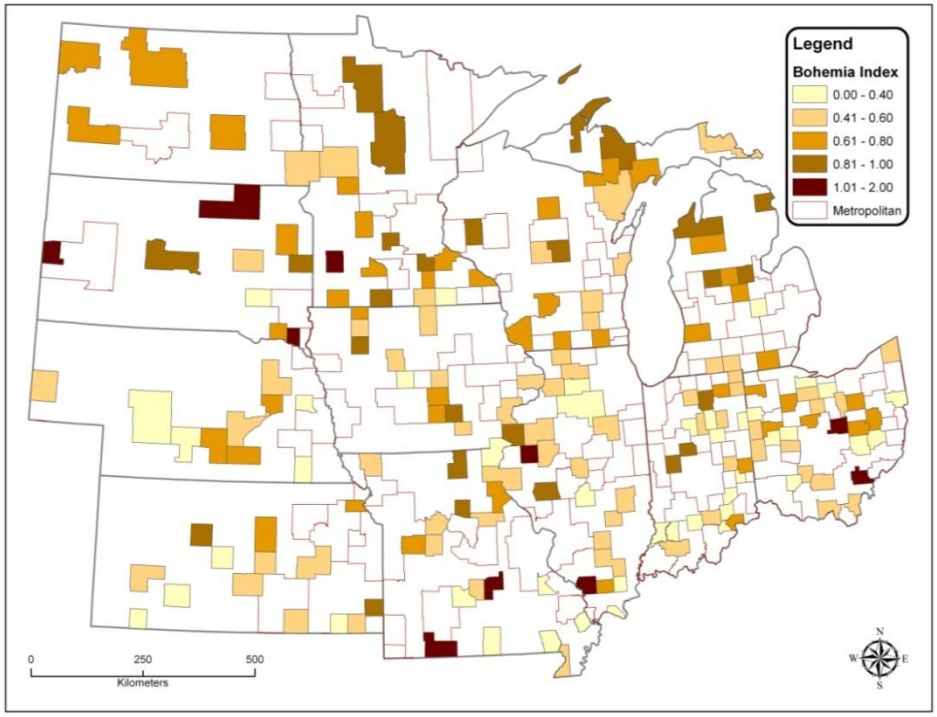

Figure 7. Bohemia Index

Table 3

µSA Community Rankings of Individual CC Measures

Top 20 µSA CC Rankings						
	TI	LI	EI	ASI	SSI	BI
1	Vermillion, SD	Pierre, SD	Pierre, SD	Hutchinson, MN	Midland, MI	Vermillion, SD
2	Brookings, SD	Jamestown, ND	Midland, MI	Midland, MI	Rolla, MO	Branson, MO
3	Carbondale, IL	Huron, SD	Marshall, MN	Houghton, MI	Brookings, SD	Spearfish, SD
4	Hays, KS	Wahpeton, ND-MN	Findlay, OH	Pierre, SD	Pierre, SD	Macomb, IL
5	Macomb, IL	Monroe, WI	Monroe, WI	Columbus, NE	Carbondale, IL	Athens, OH
6	Pierre, SD	Watertown, SD	Newton, IA	Brookings, SD	Austin, MN	Carbondale, IL
7	Midland, MI	Dickinson, ND	Alexandria, MN	Stevens Point, WI	Boone, IA	Rolla, MO
8	Spearfish, SD	Spirit Lake, IA	Beatrice, NE	Pella, IA	Houghton, MI	Marshall, MN
9	Kearney, NE	Kearney, NE	Merrill, WI	Jasper, IN	Vermillion, SD	Mount Vernon, OH
10	Marquette, MI	Marshall, MN	Jamestown, ND	Menomonie, WI	Marshall, MN	Aberdeen, SD
11	Bemidji, MN	Fairmont, MN	Stevens Point, WI	Seymour, IN	Bemidji, MN	Hutchinson, MN
12	Traverse City, MI	Platteville, WI	Willmar, MN	Bedford, IN	Kirksville, MO	Marquette, MI
13	Athens, OH	Great Bend, KS	Hutchinson, MN	Huntington, IN	Defiance, OH	Brookings, SD
14	Spirit Lake, IA	Spearfish, SD	Hays, KS	Owatonna, MN	Alpena, MI	Faribault-Northfield, MN
15	Stevens Point, WI	Fergus Falls, MN	Traverse City, MI	Marshalltown, IA	Fort Dodge, IA	Kirksville, MO
16	Faribault-Northfield, MN	Minot, ND	Mitchell, SD	Watertown, SD	Marion-Herrin, IL	Warsaw, IN
17	Yankton, SD	Traverse City, MI	Whitewater, WI	Findlay, OH	Jacksonville, IL	Fairmont, MN
18	Houghton, MI	North Platte, NE	Brainerd, MN	Winona, MN	Madison, IN	Oskaloosa, IA
19	Pittsburg, KS	Oskaloosa, IA	Quincy, IL-MO	Greensburg, IN	Marquette, MI	Bemidji, MN
20	Mount Pleasant, MI	Aberdeen, SD	Vermillion, SD	Escanaba, MI	McPherson, KS	Frankfort, IN

Overall CC and "Quality of Place" Rankings

µSA Creative Capital Rankings

This section provides the analysis of cumulative CC ranking. The cumulative CC ranking was completed using the rankings based on individual CC. The examination of both top ranked and bottom ranked µSA was conducted. In addition to the ranking, a spatial analysis of all µSA communities took place.

Analysis of the overall CC rankings showed that the top µSA were often communities that were near the top of individual CC indicators rankings, such as Pierre, SD, Midland, MI, Marshall, MN, and Brookings, SD (Table 4). Other than being at the top of single CC indicators, several communities have university, college, or research institution located within their statistical area e.g. South Dakota State University in Brookings, SD, University of South Dakota in Vermillion, SD, University of Wisconsin-Stevens Points in Stevens Point, WI, University of Wisconsin-Whitewater in Whitewater, WI, along with many other communities.

Further analysis of the communities found that there were several distinct groupings of µSA. The first group had LQs of one or higher in all the CC indices or the vast majority of them. Communities belonging to this group included the top 5 of 20 µSA: Pierre, SD, Midland, MI, Marshall, MN, Brookings, SD and Vermillion, SD. Next were the communities that had a few or a couple CC indices with LQ greater than one but were below one in the other CC indices. Some examples of these types of communities were: Aberdeen, SD, Traverse City, MI, and Hutchison, MN. However, there were

several other communities that demonstrated similar characteristics but fell outside the top 20. The main reason was a poor standing in one or two of the indices. Communities that fell into this category were Bemidji, MN, Pella, IA, Houghton, MI, and Macomb, IL, they did however fall within the top 50 communities.

The last groups of µSA that were found in the top 20 are those that did not have any CC indicators with a LQ above one, but were in the range between 0.99 and 0.8. However they were still above the average of the CC indicators for µSA in the Midwest. Some 'well rounded' µSA ranked in the top 20 were Whitewater, WI, Red Wing, MN, Stevens Point, WI, Faribault-Northfield, MN, and Alexandria, MN.

Geographically, all top 20 µSA were located in the northern part of the Midwest (Michigan, Wisconsin, Minnesota, North and South Dakota) with the exception of Findlay, OH (Table 4, Figure 8). One explanation could be the locations of these µSA are outside major MSA, so these µSAs assumed a more central role within the state or region. They are considered to be independent of the larger MSA and have economic, social, cultural and political functions of a bigger city. µSA were considered the leaders in the region's economy and presented the best location for local talent to live, work, and socialize. However, many of the top µSAs were located just outside of a MSA.

Every state across the Midwest region had at least one µSA in the top 50. The top 50 µSA were again predominately in the northern half of the Midwest states but there were several communities in the lower Midwest (Ohio, Indiana, Illinois, Iowa, Missouri,

Nebraska, and Kansas). These µSAs were within relatively short proximity to one another. There were still several µSA communities that were not next to a MSA.

µSA that fell to the bottom of the CC rankings did not have high LQs in any of the CC indicators. These communities often had CC indices below 0.5 with the exception of LI. As noted already, no µSA in the Midwest had a LQ of LI below 0.574. Spatially many communities with lower CC rankings clustered together in several states. Ohio, Indiana, Illinois, and Missouri had the vast majority of µSA ranked in the bottom 50 out of 190 communities in the overall CC ranking. In relation to MSA, there were several µSA, especially in Ohio, Indiana, and Illinois, that surround MSAs or other µSA that did well based on overall CC ranking. However, many µSAs in Kansas, Missouri, Iowa, that ranked lower on the overall CC rankings were generally either isolated or located next to another µSA that ranked highly.

Ranking of "Quality of Place" for µSA

This section of analysis discussed the overall "quality of place" ranking of µSAs. The overall "quality of place" ranking was compiled from the rankings of each individual "quality of place" measure (Table 1). In most cases the desired picture was a low LQ for RDI and SI, along with high LQ for all other indicators when the compiled overall "quality of place" ranking was measured. The examination of both top ranked and bottom ranked µSA took place. In addition to the ranking, a spatial analysis of all µSA communities was conducted. For completed ranking of individual communities and maps of each "quality of place" measure see Appendix B and C.

The top overall "quality of place" µSA communities did not always have the best LQs in each individual measure. A top ranked "quality of place" µSA had the best average of indicators. Often a community did poorly in one or two of the indicators, but had fairly high LQs in the rest of the measures. Overall, the top "quality of place" µSA typically had a lower presence of RDI and SI. They had a higher presence of MI, VMI, amenities, BI and WLI. The µSA that ranked at the bottom of "quality of place" metrics had poor scores in all measures. A couple of communities with lower "quality of place" cumulative rankings occasionally had an indicator that ranks highly individually such as: Huntington, IN, Scottsburg, IN, Lexington, NE, Mitchell, SD, and Marion, OH.

Geographically the top "quality of place" communities spread out across the Midwest states. Michigan and Missouri had the most µSA within the top 20 (Table 4). Notably, 12 of the top 20 were not next to an MSA (Figure 9). This showed that they had their own attraction and amenities to attract and retain CC in the area. The communities that ranked at the bottom of "quality of place" showed a tendency to cluster near one another and around MSA. Ohio, Indiana, and Iowa had a higher number of µSA in the bottom rankings.

In the comparison of the "quality of place" variables with CC metric, there was little overlap between the top rankings, possibly representing a disconnection between CC and "quality of place." Only five communities were found in both lists: Whitewater, WI, Faribault-Northfield, MN, Pierre, SD, Traverse City, MI, and Midland, MI (Table 4).

The question then becomes what truly attracts CC occupations to these µSA and keeps them in these communities?

Table 4

Top 20 CC and "Quality of Place" µSA Communities

Top 20 Creative Capital and "Quality of Place" Rankings		
Ranking	**Creative Capital**	**"Quality of Place"**
1	Pierre, SD	Carbondale, IL
2	Midland, MI	Fort Leonard Wood, MO
3	Marshall, MN	Athens, OH
4	Brookings, SD	Branson, MO
5	Vermillion, SD	Sault Ste. Marie, MI
6	Traverse City, MI	Macomb, IL
7	Aberdeen, SD	Whitewater, WI
8	Alexandria, MN	Pittsburg, KS
9	Hutchinson, MN	Bemidji, MN
10	Faribault-Northfield, MN	Faribault-Northfield, MN
11	Stevens Point, WI	Mount Pleasant, MI
12	Whitewater, WI	Pierre, SD
13	Willmar, MN	Traverse City, MI
14	Jamestown, ND	Rolla, MO
15	Findlay, OH	Kirksville, MO
16	Red Wing, MN	Kearney, NE
17	Marquette, MI	Brainerd, MN
18	Dickinson, ND	Midland, MI
19	Owatonna, MN	Galesburg, IL
20	Monroe, WI	Houghton, MI

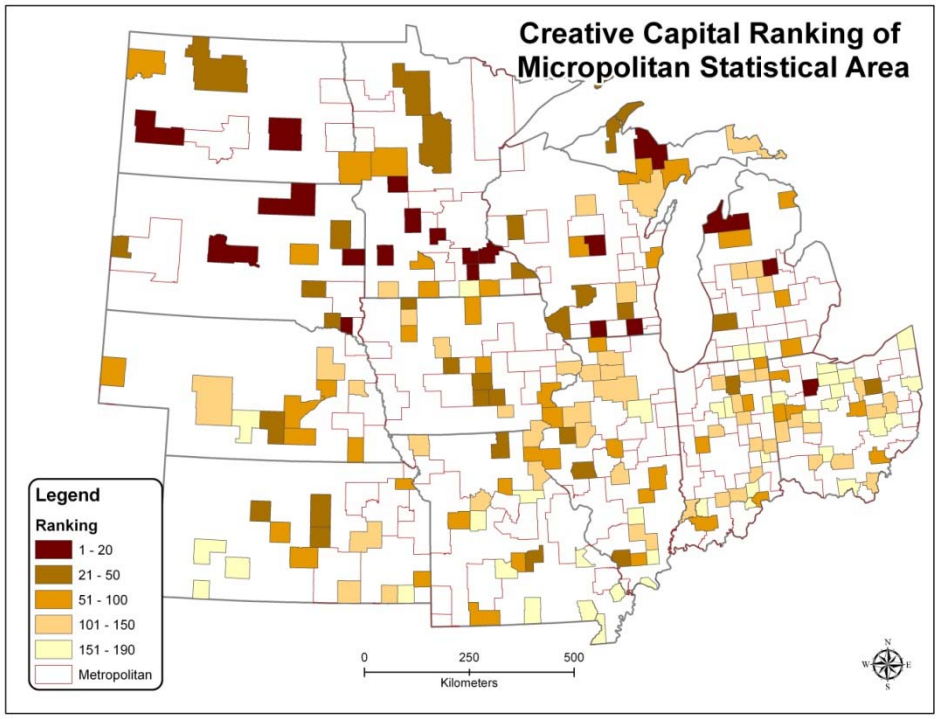

Figure 8. CC Ranking of µSA

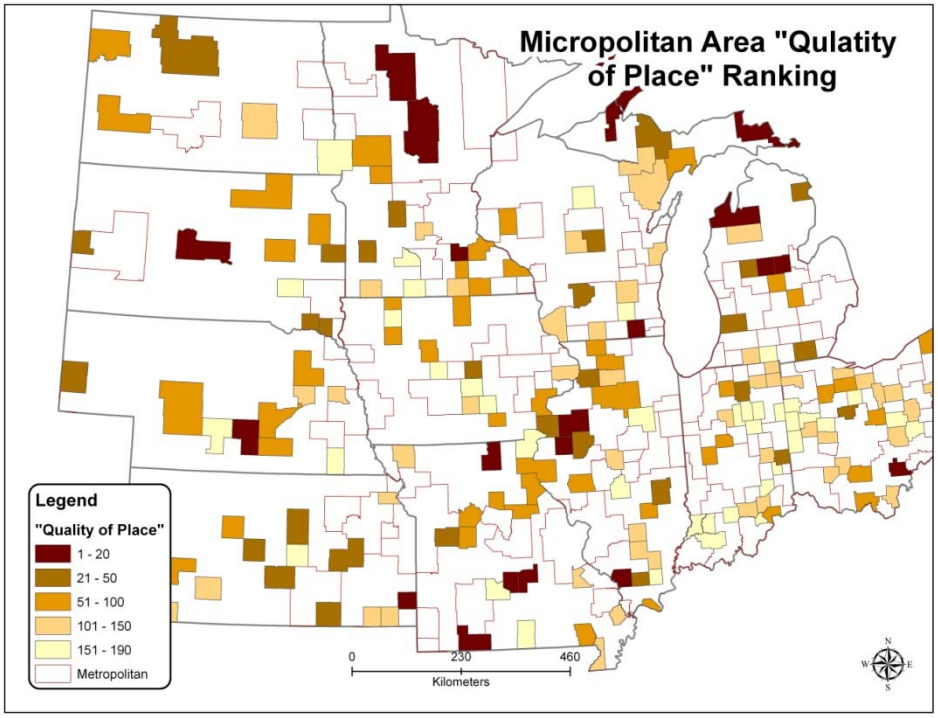

Figure 9. “Quality of Place” Ranking of µSA

CC Ranking of the Midwest µSA and MSA

This section examined CC metric across both types of core statistical areas (MSA and µSA). In other words, it analyzed how well µSA did in regards to CC compared to MSAs. It considered a combined ranking of µSA and MSA; there were only two µSAs that made the top 20 CC rankings and eight in the top 50. They were Pierre, SD, the state capital of South Dakota, and Midland, MI, home to one of Michigan State University research facilities. The rest of the list was broken down between the largest MSAs in the region (Chicago, Detroit, and Minneapolis) and communities with strong ties to top universities (Madison, WI, Ann Arbor, MI, and Columbus OH) as seen in Table 5. MSA and µSA within the top 20 all had high LQs typically above the national base line. The highest ranked core statistical areas usually had LQs higher than one in four or more of the CC indicators. In other cases CC were usually within the 0.99 to 0.80 range. This left many µSA out of the top 20 ranking or highest ranked communities in general due to their tendency to be deficient in one or two areas of CC. However, the two µSA that made the top 20 were well rounded and had LQs above one in all six CC indices.

When ranking the individual CC indicators there were usually a few µSAs in the top 20. In individual CC indicators the top 20 communities had a LQ above one. LI had the most µSA within the top 20 (with 15 communities). LI had a large share of µSA ranked in the top 20 which can be due to the fact that many of the µSA communities perform administrative functions (e.g. county seats). EI and ASI had the fewest µSA

with only three in the top 20. Individual rankings of the CC indices showed that all of the core statistical areas in the top 20 had LQs above one or at the national average.

"Quality of Place" Rankings of the Midwest µSA and MSA

"Quality of place" combined ranking of µSA and MSA had three µSA communities ranked in the top 20; Carbondale, IL, Athens, OH, and Branson, MO (Table 5). Interestingly, none of these µSAs were ranked within the top 20 of the CC. When comparing Carbondale, IL, Athens, OH, and Branson, MO on the top 20 "quality of place" rankings for just µSA, Carbondale was ranked first, Athens third and Branson forth. Fort Lenard Wood, MO came in at second but when MSA were introduced its high LQ of RDI gave it a lower "quality of place" ranking. This was the case for several other µSA with high "quality of place" rankings.

As expected there was an overlap between attractiveness factors and CC for MSA with 12 total MSAs on both lists at the same time. Perhaps there seemed to be a disconnection between "quality of place" and CC in µSA. There are other factors that can draw CC to µSA that were not measured by the traditional indicators. The top 20 communities had lower RDI and SI levels, while they had higher LQs of BI, amenities, and WLI. Many µSA had high RDI and SI as compared to MSA which caused them to have lower "quality of place" rankings. In other words, a less diversified economy with strong reliance on industry made many µSA less attractive for the CC. The question however, is whether conventional "quality of place" indices were adequate to describe attractiveness of µSA.

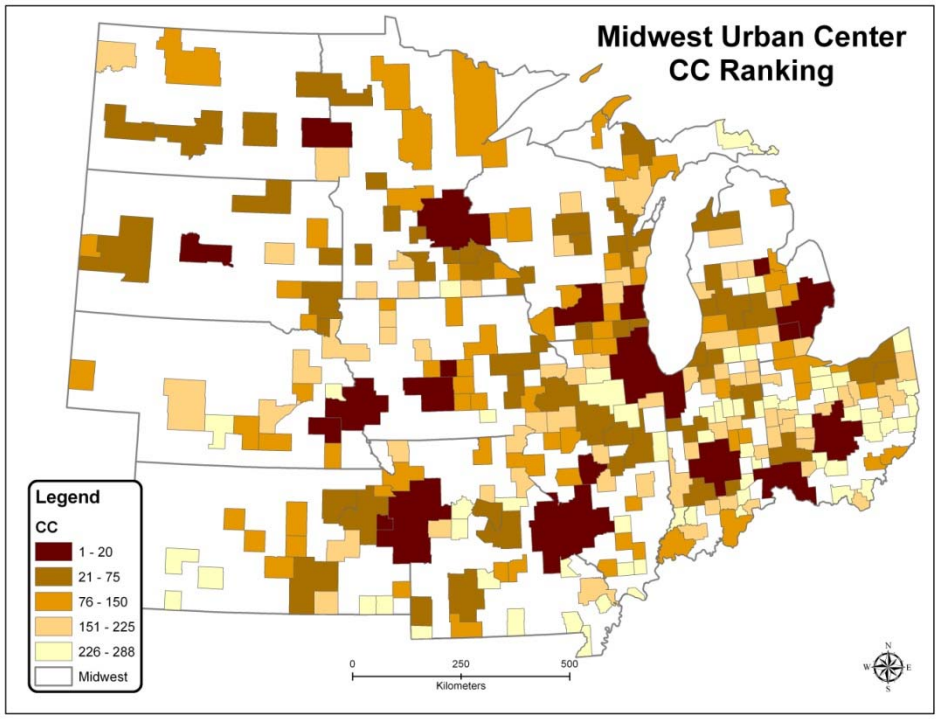

Figure 10. µSA and MSA CC Ranking

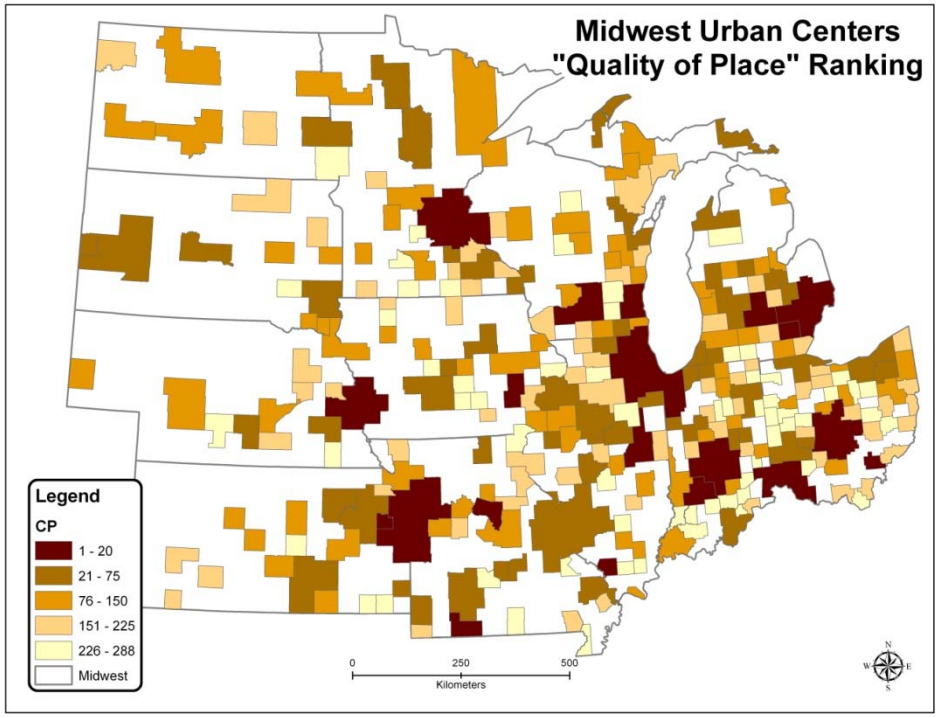

Figure 11. Urban Midwest “Quality of Place” Ranking

Table 5

Urban Midwest CC and "Quality of Place" Ranking

Top 20 Creative Capital and "Quality of Place" Rankings for µSA and MSA		
Ranking	**Creative Capital**	**"Quality of Place"**
1	Madison, WI MSA	Ann Arbor, MI MSA
2	Ann Arbor, MI MSA	Chicago-Joliet-Naperville, IL-IN-WI MSA
3	Minneapolis-St. Paul-Bloomington, MN-WI MSA	Lawrence, KS MSA
4	Columbus, OH MSA	Champaign-Urbana, IL MSA
5	**Pierre, SD µSA**	Columbus, OH MSA
6	Chicago-Joliet-Naperville, IL-IN-WI MSA	Columbia, MO MSA
7	Des Moines-West Des Moines, IA MSA	Indianapolis-Carmel, IN MSA
8	Kansas City, MO-KS MSA	Minneapolis-St. Paul-Bloomington, MN-WI MSA
9	**Midland, MI µSA**	Lansing-East Lansing, MI MSA
10	Lawrence, KS MSA	Kansas City, MO-KS MSA
11	Lincoln, NE MSA	Detroit-Warren-Livonia, MI MSA
12	Indianapolis-Carmel, IN MSA	Madison, WI MSA
13	Omaha-Council Bluffs, NE-IA MSA	Omaha-Council Bluffs, NE-IA MSA
14	Cincinnati-Middletown, OH MSA	Iowa City, IA MSA
15	Milwaukee-Waukesha-West Allis, WI MSA	**Carbondale, IL µSA**
16	Ames, IA MSA	Cincinnati-Middletown, OH MSA
17	St. Louis, MO-IL MSA	Bloomington-Normal, IL MSA
18	Fargo, ND-MN MSA	**Athens, OH µSA**
19	Detroit-Warren-Livonia, MI MSA	Milwaukee-Waukesha-West Allis, WI MSA
20	Springfield, IL MSA	**Branson, MO µSA**

Comparison of CC, Richard Florida's Traditional Creative Class, and Recast Creative Class Rankings

This section of the study compared CC, Richard Florida's traditional creative class, and recast creative class rankings calculated for μSAs. Creative class rankings were first calculated using Florida's traditional definition of occupations that made up the creative class (Florida, 2002, 2005, 2012). Florida (2002, 2012) never provided computations or rankings for μSA. Rankings were also calculated for the subgroups 'creative professionals' and 'super-creative core' of the creative class. The original definitions used by Florida (2002, 2012) were implemented. The next step in the analysis compared the CC ranking to Florida's traditional creative class and subgroups of 'super creative core' and 'creative professionals' rankings. 'Super creative core' represents those in creative work that produces or design new products that can be manufactured, sold, and used. They are problem finders and solvers. 'Creative professionals' are people engaged in problem solving, drawing on their knowledge to solve specific problems (Florida, 2002, 2012).

One more comparison was conducted used McGranahan and Wojan (2007) recast creative class indicators designed for rural counties and the adjusted creative class in Stolarick et al., (2012) report on rural Ontario. The recast creative class was calculated with the American Community Survey 2010 data and used the same occupational designations as defined in both studies (McGranahan & Wojan, 2007; Stolarick et al.,

2012). The recast creative class ranking was compared to both CC and Florida's traditional creative class.

First to be compared was the top 20 of CC and Florida's creative class. There was a difference of seven communities between the two rankings as seen in Table 6. One reason why there could be such a different was the use of three additional occupational indicators that Florida used and CC does not: health care, education and high-end sales. The seven µSA that where in Florida's creative class but not in CC all had high LQs in one or more of these indices left out of the CC metrics. As Petrov (2008) and McGranahan and Wojan (2007) pointed out education, health care, and high-end sales inflates the creative class without potentially adding to knowledge and innovation capital. This was one reason why McGranahan and Wojan (2007), and Stolarick et al., (2012) recast creative class indicators while Petrov (2007) redefined creative capital.

Second was the comparison of CC to Florida's Creative Class occupational groupings of the 'super creative core' and the 'creative professionals.' There were only six µSA that matched between Florida's creative class and 'super creative core' top 20, whereas the CC metrics had eight of the same µSAs as the 'super creative core.' The comparison to 'creative professionals' and Florida's creative class, had 11 µSAs in common, while between CC metric and 'creative professionals' only seven µSA were on each of the top 20. It could be argued that Florida's creative class had a stronger connection with occupations that engaged in problem solving, drawing on their knowledge to solve specific problems or the 'creative professionals.' CC metric had a

stronger relationship with occupations that use their innovation and creativity to produce and design new forms of useable knowledge measured through ‘super creative core.’ This could lead to technology production and economic potential in µSA rather than just being supplemental occupations to the overall metrics (Florida, 2002, 2012).

Third was the comparison between the recast creative class, CC, and Florida’s creative class top 20 rankings (Table 6). Florida’s creative class and recast creative class had only nine communities that matched on both top 20s. CC metrics and recast creative class had 16 µSAs in common on both top 20s. This might support that the addition of education, health care, and sales related occupations distorts the notion of CC in non-metropolitan areas. The redefined traditional classification of creative class to CC for µSAs was a better representation of occupations engaged in knowledge production and innovation. However, there are three communities, Pella, IA, Oskaloosa, IA, and Newton, IA that made the recast top 20 but did not make it on either CC or Florida’s traditional creative class top 20. The most successful communities had relatively even distribution of CC indices and not just cluster on one type of occupational group. Many µSA tended to score high on a few indicators while others scored rather low, demonstrating the lack of local synergy and truncated nature of the CC.

Table 6

Comparison Rankings of Top 20 µSA

Rankings µSA					
	CC	**Creative Class**	**Adjusted Class**	**Super Creative Core**	**Creative Professionals**
1	Pierre, SD	Midland, MI	Pierre, SD	Houghton, MI	Traverse City, MI
2	Midland, MI	Alexandria, MN	Hutchinson,	Brookings, SD	Alexandria, MN
3	Marshall, MN	Traverse City, MI	Midland, MI	Vermillion, SD	Aberdeen, SD
4	Brookings, SD	Bemidji, MN	Marshall, MN	Midland, MI	Willmar, MN
5	Vermillion, SD	Pierre, SD	Brookings, SD	Rolla, MO	Scottsbluff, NE
6	Traverse City, MI	Marquette, MI	Aberdeen, SD	Athens, OH	Hays, KS
7	Aberdeen, SD	Vermillion, SD	Monroe, WI	Marshall, MN	Pierre, SD
8	Alexandria, MN	Marshall, MN	Alexandria, MN	Faribault-Northfield, MN	Kearney, NE
9	Hutchinson, MN	Hays, KS	Stevens Point, WI	Menomonie, WI	Monroe, WI
10	Faribault-Northfield, MN	Findlay, OH	Traverse City, MI	Carbondale, IL	Brainerd, MN
11	Stevens Point, WI	Willmar, MN	Pella, IA	Winona, MN	Alpena, MI
12	Whitewater, WI	Aberdeen, SD	Vermillion, SD	Bemidji, MN	Great Bend, KS
13	Willmar, MN	Jacksonville, IL	Jamestown, ND	Pittsburg, KS	Mitchell, SD
14	Jamestown, ND	Kirksville, MO	Faribault-Northfield, MN	Marquette, MI	Jacksonville, IL
15	Findlay, OH	Alpena, MI	Owatonna, MN	Macomb, IL	Midland, MI
16	Red Wing, MN	Brookings, SD	Oskaloosa, IA	Whitewater, WI	Mason City, IA
17	Marquette, MI	Red Wing, MN	Whitewater, WI	Stevens Point, WI	Fergus Falls, MN
18	Dickinson, ND	Brainerd, MN	Willmar, MN	Mount Pleasant, MI	Bemidji, MN
19	Owatonna, MN	Carbondale, IL	Newton, IA	Wooster, OH	Spirit Lake, IA
20	Monroe, WI	Stevens Point, WI	Brainerd, MN	McPherson, KS	Minot, ND

Comparison of CC, Florida's Creative Class, and Recast Creative Class for µSA and MSA

After the comparison of just µSA, the next step of analysis was to compare the rankings of MSA and µSA in both CC and Florida's traditional creative class (Table 7). This part of the analysis examined how both compared to the 'super creative core,'

‘creative professionals,’ and then recast creative class (Table 7). All of the classifications were calculated for the study using their occupational definitions.

When Florida’s traditional creative class measure was used there was not a single µSA community that made the top 20 list. The closest to the top 20 was Midland, MI ranked at 22nd. This showed that the addition of education, health care and sales occupations played in favor of MSAs. However, it had been argued that these occupations inflate the size of the creative class but do not create new economic opportunities for a community (McGranahan & Wojan, 2007). Some examples of communities in Florida’s traditional creative class top 20 but not on CC due to high rankings in education, health care and or sales were, Cleveland, OH, Iowa City, IA, Columbia MO, and Akron. OH. Overall, there were 16 MSA found on both CC and Florida’s creative class rankings. However, this helped to validate CC as an appropriate way to measure knowledge productivity and innovations through occupational groups.

The comparison of CC and Florida’s traditional creative class to the ‘super creative core,’ ‘creative professionals,’ and the recast creative class were examined for all core statistical areas. In the rankings of ‘super creative core’ only five µSA made it on the top 20, whereas only two µSA made it on the ‘creative professionals’ top 20 lists. Overall, for total matches, both Florida’s traditional creative class and CC metric had nine communities that were part of the ‘super creative core.’ ‘Creative professionals’ and Florida’s traditional creative class had 15 MSA in common whereas for CC and ‘creative professionals’ had 14 µSAs and MSAs. The recast creative class had a total of four µSA

on the top 20 list. Out of these four µSA only CC had two (Pierre, SD, and Midland, MI) in the top 20. CC had 17 MSA and µSA in common with the recast creative capital as opposed to Florida's creative class which had just 14 MSA in common on both top 20. Again this analysis showed that traditional measures of creative capital were formed for MSAs and underrepresented µSAs.

Even though there were not many µSA in the top 20 it still showed that these communities could have a concentration of creativity. µSA may not be as 'well rounded' as a MSA or have had the large research university but there were specialized communities capable of producing new and creative forms of economic activity. The 'super creative core' showed this notion well for µSA made up 25 percent of the top 20. The 'super creative core' was believed to have the strongest influence on knowledge and innovation capital (Florida, 2012). By having µSA ranked so high in the top 20 of CC and the 'super creative core' rankings showed that not all creative development happens within MSAs, but there are smaller communities competing in certain sectors of the economy with MSA. µSA communities may not be as far removed from MSA in respect to capacities and knowledge production.

Table 7

Comparison Ranking of Top 20 µSA and MSA

Rankings of µSA and MSA					
	CC	**Creative Class**	**Adjusted Class**	**Super Creative Core**	**Creative Professionals**
1	Madison, WI MSA	Madison, WI MSA	Minneapolis-St. Paul-Bloomington, MN-WI MSA	Ann Arbor, MI MSA	Indianapolis-Carmel, IN MSA
2	Ann Arbor, MI MSA	Ann Arbor, MI MSA	Madison, WI MSA	Ames, IA MSA	Springfield, IL MSA
3	Minneapolis-St. Paul-Bloomington, MN-WI MSA	Minneapolis-St. Paul-Bloomington, MN-WI MSA	Ann Arbor, MI MSA	Madison, WI MSA	Omaha-Council Bluffs, NE-IA MSA
4	Columbus, OH MSA	Columbus, OH MSA	Columbus, OH MSA	Champaign-Urbana, IL MSA	**Traverse City, MI µSA**
5	**Pierre, SD µSA**	Indianapolis-Carmel, IN MSA	**Pierre, SD µSA**	Lawrence, KS MSA	Kansas City, MO-KS MSA
6	Chicago-Joliet-Naperville, IL-IN-WI MSA	Omaha-Council Bluffs, NE-IA MSA	Des Moines-West Des Moines, IA MSA	Lansing-East Lansing, MI MSA	St. Louis, MO-IL MSA
7	Des Moines-West Des Moines, IA MSA	St. Louis, MO-IL MSA	Chicago-Joliet-Naperville, IL-IN-WI MSA	Bloomington, IN MSA	Minneapolis-St. Paul-Bloomington, MN-WI MSA
8	Kansas City, MO-KS MSA	Cincinnati-Middletown, OH MSA	Kansas City, MO-KS MSA	Iowa City, IA MSA	Cleveland-Elyria-Mentor, OH MSA
9	**Midland, MI µSA**	Kansas City, MO-KS MSA	Indianapolis-Carmel, IN MSA	Columbia, MO MSA	**Alexandria, MN µSA**
10	Lawrence, KS MSA	Springfield, IL MSA	Milwaukee-Waukesha-West Allis, WI MSA	Lincoln, NE MSA	Milwaukee-Waukesha-West Allis, WI MSA
11	Lincoln, NE MSA	Columbia, MO MSA	Midland, MI **µSA**	**Brookings, SD µSA**	Bismarck, ND MSA
12	Indianapolis-Carmel, IN MSA	Chicago-Joliet-Naperville, IL-IN-WI MSA	Cincinnati-Middletown, OH MSA	**Houghton, MI µSA**	Cincinnati-Middletown, OH-KY-IN MSA
13	Omaha-Council Bluffs, NE-IA MSA	Milwaukee-Waukesha-West Allis, WI MSA	Omaha-Council Bluffs, NE-IA MSA	**Midland, MI µSA**	Columbus, OH MSA
14	Cincinnati-Middletown, OH MSA	Lincoln, NE MSA	**Hutchinson, MN µSA**	**Vermillion, SD µSA**	Chicago-Joliet-Naperville, IL-IN-WI MSA
15	Milwaukee-Waukesha-West Allis, WI MSA	Iowa City, IA MSA	Lincoln, NE MSA	Lafayette, IN MSA	Des Moines-West Des Moines, IA MSA

Continued

	CC	Creative Class	Adjusted Class	Super Creative Core	Creative Professionals
16	Ames, IA MSA	Lawrence, KS MSA	Detroit-Warren-Livonia, MI MSA	Columbus, OH MSA	Detroit-Warren-Livonia, MI MSA
17	St. Louis, MO-IL MSA	Des Moines-West Des Moines, IA MSA	**Marshall, MN µSA**	Minneapolis-St. Paul-Bloomington, MN-WI MSA	Madison, WI MSA
18	Fargo, ND-MN MSA	Fargo, ND-MN MSA	Lawrence, KS MSA	**Rolla, MO µSA**	Akron, OH MSA
19	Detroit-Warren-Livonia, MI MSA	Cleveland-Elyria-Mentor, OH MSA	Cedar Rapids, IA MSA	Kalamazoo-Portage, MI MSA	Sioux Falls, SD MSA
20	Springfield, IL MSA	Akron, OH MSA	St. Louis, MO-IL MSA	Fargo, ND-MN MSA	Ann Arbor, MI MSA

Correlation Analysis

Correlation analysis examined the connection between CC and "quality of place" in µSA. The analysis was conducted for all indices of CC metric (Table 8). There was a strong correlation of the CC indicators to one another. The only two measures that did not have a significant relationship to each other were leadership (LI) and applied science index (ASI). All other measures were correlated at the 0.01 significance level. This helped to show that the different components of CC are connected to one another as indicated by existing research (Petrov, 2008; Petrov & Cavin, 2012). Thus, µSAs that already have one or a few of the CC components present have the potential to attract creative occupations from other occupations groups (Table 8).

Even with all the CC indicators positively correlated, the relationship of TI with the other CC measures stood out in its strength. The higher the education attainment

levels in a µSA community the more likely CC will cluster there. With a strong link between educational attainment and CC, it could be argued that the presence of universities, colleges, or other institutions of higher learning had a positive effect on the presence of CC in µSA, just like in MSA (Florida, 2002, 2012; Feldman, 1994, 2000). Out of the CC indicators, the BI had the strongest connection with TI which was different than other peripheral regions, especially very remote ones (Petrov & Cavin, 2012). On one hand the concentration of 'bohemia' attracts a talented labor force. On the other the 'bohemia' itself could be seen as attracted to areas with highly educated population due to those with higher education usually make a higher income. Educated people were more likely to participate in cultural economy (Markusen, 2004).

Table 8

Correlation of CC Indicators

	TI	LI	EI	ASI	SSI	BI
TI	1	.461(**)	.405(**)	.285(**)	.562(**)	.668(**)
LI		1	.388(**)	.131	.210(**)	.247(**)
EI			1	.431(**)	.315(**)	.268(**)
ASI				1	.292(**)	.213(**)
SSI					1	.388(**)
BI						1
Number of µSA						190

** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed).

Now that the relationship among CC indices was examined, the next step was to look at each individual CC index and its connection to "quality of place" or attractiveness

factors (Table 9). First in this process was to study the relationship between industry base indicators RDI and SI to CC measures. TI and LI showed positive relationship to RDI. However, even though both were positive, only LI index had a significant correlation (r=0.473). One reason could be the large number of leadership occupations within μSA that dealt with the primary sector industries. For example, management occupations in farming and farm mangers were included in the Bureau of Statistics classification of management. The opposite of LI relationship with RDI was ASI which had a significant negative relationship to RDI.

Next, single industry or manufacturing (SI) index fared slightly worse than RDI in being a measure for "quality of place" and attracting CC. Out of the six CC indices; TI, LI, SSI, and BI all were significantly negatively correlated with SI. ASI was the only CC measure that had a strong positive relationship with SI at 0.204 and at the significant level of 0.001. ASI relationship could be due to the high number of ASI occupations that are related to industries, including high-end manufacturing.

The correlation between CC metrics, RDI and SI showed that neither industry was strongly linked to attracting CC to an area. EI, SSI, and BI all had negative relationship with RDI and SI showed that neither attracted these types of CC to the μSA. RDI and SI could be seen as important to the economic stability and continual growth of LI and ASI along with all the CC metrics. SI was correlated to patents the indicator used to measure innovation. RDI was correlated with per capita income, a measure of economic prosperity.

Next the correlation analysis examined how CC was correlated with the "quality of place" indicator of amenities that potentially attract CC to these μSA. Amenities have been said to be positive relationship with CC (Aarsaether, 2003; Stolarick et al., 2010). Amenities demonstrated a positive correlation with TI, LI, EI, SSI, and BI. Among the five metrics that were positively correlated four were significant: TI, EI, SSI, and BI. Since amenities create social vibrancy it is not surprising that those in CC occupations want these types of services in the community. Amenities give the creative works the chance to socialize and live actively within the community without having to go to larger metropolitans (Aarsaether, 2003; Glaeser, 2000; Stolarick et al., 2010). ASI is the only metrics that was negatively correlated with amenities (Table 9).

The analysis examined the more traditional factors of "quality of place" such as tolerance and openness through how CC indicators of μSA correlate to VMI, MI, and WLI. When it comes to VMI and MI all CC indices except for TI were negatively correlated in μSA in sharp contrast with MSA communities (Florida, 2002). EI and ASI were negatively and significantly correlated to both measures of tolerance. Even TI positive relationship to MI and VMI was not significant. WLI had a different relationship with CC indices. WLI positively correlates with all six of the CC indices: TI, LI, EI, SSI, and BI all were significantly correlated with WLI at the 0.001 level. First this showed that CC tends to concentrate in μSAs that demonstrated openness and tolerance. The strong connection of the WLI to the other CC occupations could be because women leadership made up part of the overall picture of the LI. Therefore it could be expected to have a strong positive relationship with the CC metrics.

Population density had a strong positive relationship with ASI. The correlation between ASI and population density was at the significance of 0.05 level. The rest of the CC indicators all had a negative link to population density. TI, BI, and LI were all at the significant level. Population density also had a strong positive relationship with SI. This showed that where SI was high, the community will also have high population density. Industry needs a large labor pool to draw from in order to function in μSA. SI connection to population density helped to explain and gave a stronger bond to ASI as well. ASI connection to SI and higher population density areas could draw ASI along with industry to communities with greater population.

Lastly, the correlations between CC and technology production, innovation, and economic growth were examined. Technology production was measured using tech-pole index (TPI). TPI was strongly and positively correlated with all the CC indicators (Table 9). All six CC indices were also positively correlated with patent production. TI, LI, and BI are at significant level of 0.05. EI, ASI, and SSI were all at the 0.01 level of correlation (Table 9).

Economic prosperity was measured as per capita income and poverty level. All CC indices were correlated strongly and positively with per capita income. The strong relationship between CC and per capita income showed that CC was associated with elevated levels of income at the μSA level. When people had higher incomes they were likely to spend money further creating new jobs, increasing the overall strength of the local economy, and improving the living standard in the community. Those with a CC

occupation may typically have a higher disposable income and may be willing to invest entrepreneurially into the community further developing the CC of the μSA. This investment and overall higher living standard could continue to be attractive to members of the creative class.

Poverty had varying results compared to per capita income. LI, EI, and ASI were all negatively associate with poverty. They produce positive influence on the community economically by increasing income levels and reducing the number of people in poverty. BI correlated positively and significantly with poverty. This gave some credit to the notion of the "starving artist" in μSA although the relationship is more complex.

Technology production, innovation, and economic growth variables were not only affecting CC but were also connected to the "quality of place" measures. Several of the "quality of place" indicators had a positive effect on technology production, innovation, and economic growth in μSA. WLI was one measure that influences all three positively. Other indicators demonstrate a relationship with patents. Population density and SI both increased the chances of patent production in μSA. Both correlated significantly to each other and form a strong link with patents. It could be speculated that they are two of the more important indicators in what will increase ASI in a community which had the strongest link to patent production. Therefore it is possible the greater number of ASI occupations in a more densely populated area with larger SI sector will produce more patents. The openness based on WLI was associated with attracting CC at a higher rate which creates opportunities to increase economic growth, and technology production.

Table 9
Correlation Matrix of μSA

	RDI	SI	Amenities	VMI	MI	WLI	Pop Den Sq. M	TPI	Patent	Per Capita Income
TI	.138	-.465(**)	.422(**)	.040	.042	.314(**)	-.299(**)	.341(**)	.166(*)	.353(**)
LI	.473(**)	-.279(**)	.060	-.064	-.042	.552(**)	-.355(**)	.196(**)	.156(*)	.563(**)
EI	-.002	-.095	.026	-.157(*)	-.165(*)	.273(**)	-.064	.263(**)	.322(**)	.500(**)
ASI	-.184(*)	.204(**)	-.023	-.281(**)	-.161(*)	.120	.174(*)	.362(**)	.430(**)	.361(**)
SSI	-.016	-.345(**)	.200(**)	-.029	-.021	.224(**)	-.074	.371(**)	.253(**)	.222(**)
BI	-.014	-.350(**)	.467(**)	-.070	-.041	.188(**)	-.148(*)	.332(**)	.159(*)	.144(*)
RDI	1	-.195(**)	-.184(*)	.247(**)	.300(**)	-.056	-.511(**)	-.074	-.182(*)	.259(**)
SI		1	-.497(**)	-.012	.141	-.298(**)	.394(**)	-.370(**)	.203(**)	-.037
Amenities			1	-.053	-.115	.252(**)	-.065	.227(**)	-.023	-.023
VMI				1	.905(**)	-.090	-.230(**)	-.194(**)	-.113	-.185(*)
MI					1	-.122	-.196(**)	-.139	-.015	-.114
WLI							.006	.242(**)	.214(**)	.242(**)
Pop Den Sq. M							1	-.053	.394(**)	-.095
TPI								1	.221(**)	.279(**)
Patent Production									1	.350(**)
Per capita Income										1

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

µSA and MSA Comparison across the Midwest

In order to better understand CC in µSAs and place it in the regional context the next step in the analysis was to compare them with MSAs in the Midwest. The comparison started by examining the relationship among the CC indices. As already mentioned all the CC indices in µSAs were significantly and positively correlated except for ASI and LI (Table 8). When examining among the CC indices relationship in MSAs all of them were related significantly and positively as seen in Table 10. CC had an even stronger relationship among one another at the MSA level than at the µSA. All CC indices helped to attract other CC to MSAs as well as µSAs. This result is expected and well compatible with existing studies (Florida, 2012; Gertler et al., 2002)

Table 10

Correlation Analysis of CC in MSA

	TI	LI	EI	ASI	SSI	BI
TI	1	.692(**)	.596(**)	.693(**)	.845(**)	.868(**)
LI		1	.718(**)	.695(**)	.558(**)	.622(**)
EI			1	.668(**)	.436(**)	.514(**)
ASI				1	.510(**)	.579(**)
SSI					1	.760(**)
BI						1

In comparison to µSA, RDI in MSA had no positive effect on the CC indices (unlike in µSA were LI and TI were both positively associated with RDI). EI and ASI both correlate negatively and significantly in MSA (as opposed to just ASI for µSA) with RDI. The point of interest was that RDI in µSA had a positive and meaningful

relationship to VMI and MI, two other attractiveness factors for a community (Table 9). In MSA it was the opposite: RDI did not have a positive association with MI and VMI (Appendix F). SI and ASI were no longer significant or positively correlated in MSA as they were in µSA.

Next part of the "quality of place" comparison between µSA and MSA was openness and tolerance. The comparison of MSA to µSA in respect to the relationship of CC indicators to MI and VMI showed that MSA had an opposite relationship than observed in µSA. All of the CC indicators in MSA were positively and significantly correlated with MI and VMI. This association helped to show that having more diverse populations was an important attractiveness factor for CC in MSAs but not in µSAs. The last component of openness and tolerance measurements was WLI. In MSA WLI had a stronger relationship with CC that in µSA. ASI in MSAs was correlated at a significant level with WLI.

Amenities as a measure of "quality of place" showed variable results in MSA as it did in µSA. Amenities were a better indicator of attractiveness in µSA then it was in MSA. Three of the six CC indicators TI, SSI, and BI in µSA had a positive and significantly relationship with amenities versus only two, TI and BI for MSA. Three of the six CC measures LI, EI, and ASI in MSA were negatively associated with amenities, whereas only ASI is in µSA.

The last measure of "quality of place" was population density. It varied between MSA and µSA. As mentioned, population density had a negative relationship with CC in

µSA (except ASI). However, population density in MSA had a positive relationship with all CC, including LI, EI and ASI. SI was positively linked to population density in both µSA and MSA but in µSA it was more highly correlated. When it comes to knowledge production (measured by TPI) population density in µSA had a negative relationship, whereas in MSA it was positive. However, if knowledge production was measured using patents they were both positively connected while MSA had a stronger link (Appendix F).

µSA and MSA measurements for technology production, innovation, and economic growth were all strongly and positively inter-correlated with one another. However, in MSA the correlation was at a much higher level than in µSA. When it comes to technological production measured by patents, ASI in µSA had a higher correlation then does ASI in MSA. This helped convey ASI importance in µSA in knowledge creation.

Overall, many relationships are similar between CC in µSAs and MSAs especially in regards to the interrelationship between CC and connection to innovation, technology production, and economic potential. However there are substantial differences that remain in regards to "quality of place." There needs to be a further examination of potential pull factors of CC to µSAs. This could be either other "quality of place" indicators to be used or case studies which could lead to the roll social or civic capital play in the community.

Regression Analysis

The regression analysis ran was a backwards stepwise linear regression procedure. This part of the study was conducted for CC and "quality of place" for µSA and MSA. The regression was ran to see which independent CC indicator best predicted the presence of a dependent CC measure for both µSA and MSA. Regression analysis was also conducted between each CC indicator and "quality of place" measures. CC indices were the dependent variable and the independent variables are the "quality of place" measures and it was to analyze which best predicted the presence of the CC measure. This was to understand the relationship among the CC index measures as well as with "quality of place" measures at a deeper level. First was an examination of how one CC indicator was linked to the others in µSA and MSA and how these urban centers differ from one another. It was important to remember that regression analysis has some limitations and requires careful interpretation of its results.

The dependent variable TI was best predicted by LI, EI, SSI, and BI in the µSA. TI in MSA was best predicted by ASI, SSI, and BI. The fact that both MSA and µSA TI shared a commonality of SSI and BI affecting the projection of TI in the area helped to confirmed the principal commonality between µSA and MSA (Appendix G).

LI as the dependent variable in µSA had two significant predictors in TI and EI, but the model had a poor fit (Appendix G, Table 3). LI in MSA had similar relationships to the other CC indicators. TI and EI were the best predictors of the presences LI, along with ASI. These three indicators had a higher R squared value showed the predictability

of LI that used data on other CC groups in MSA was better than in µSA (Appendix G, Table 4). This showed once again there was a stronger connection among the CC indices in MSA than in µSA.

When EI was the dependent variable in the regression analysis, ASI, LI and TI in µSA best predicted EI in µSA. These three indictors had a low R squared value which meant they had a lower ability to predict the presences of EI. ASI of the three predictors had the strongest ability to predict EI (Appendix G, Table 5). In MSA only LI and ASI were predictors of EI. They had a stronger ability to predict EI than in MSA (Appendix G, Table 6). There was a stronger bond of CC in MSA than µSA even when there were less independent CC variables predicting the presence of the dependent variable.

The regression analysis of ASI had EI and SSI as predictors in µSA (Appendix G, Table 7). These two indicators had low ability to predict ASI. In MSA the predictors of ASI were EI, LI, and TI (Appendix G, Table 8). EI, TI, and LI had a stronger connection with ASI than the µSA predictors of EI and SSI. Overall ASI was not easily predicated in either µSA or MSA.

SSI regression analysis in both µSA and MSA had the same CC indictors as predictors: ASI and TI. However, there was one significant difference, ASI in MSA had a negative connection to SSI, where in µSA the relationship was positive (Appendix G, Table 9). Another difference, as in the case of the other CC measures was in MSA there was a stronger connection between the dependent CC variable and the independent variables. In MSA the negative link between SSI and ASI raises concern about the true

strength of the relationship and correlation of the CC metrics. BI in MSA and μSA had only one predictor TI. In both regions there was a strong connection and high probability that TI influences the presence of BI.

In μSA the regression models predicted the presence of a CC did not usually have a strong R square value, with the exception of BI and TI. TI had the strongest ability to be predicted by the other CC variables because it had connections with LI, EI, SSI, and BI at a high R square score. As already mentioned, there was a much deeper and stronger connection between different CC indicators than which was just portrayed in the correlation analysis. In MSA the strength, connection, and ability to predict the CC indicator was higher than in μSA. However there was a negative connection between SSI and ASI that showed not all the correlations were as strong. TI had the strongest ability to predict CC indictors in both MSA and μSA. In MSA and μSA SSI and BI as independent variables had the least capability to predict the presence of other CC indicators.

The next portion of the regression analysis is to study which "quality of place" measures that attracted or hindered the presence of individual CC indicators (Appendix H). The regression analysis of "quality of place" measures as the independent variables for each CC indicator the dependent variable was done for μSA and MSA. Once again this was done to see the similarities and difference between two regions to better understand CC in μSA.

WLI, BI, SI, and MI as independent variables helped to predict the presence of TI in µSAs (Appendix H, Table 1). These four measures had a moderate ability to predict TI. SI negatively affected the presence of TI. The lesser industrial dependency of a community the higher TI would be. In contrast TI in MSA was drawn to a community by a different set of variables: VMI, MI, SI, and BI (Appendix H, Table 2). This group of measures had high ability to predict the presences of TI in MSA then in µSA. Like µSA, TI in MSA was negatively affected by SI. SI was not the only negatively correlated variable, VMI was also negative (a surprising result contrasting other existing studies that may be related to the nature of population composition in Midwestern MSAs). Importantly, TI in MSA and µSA both had BI as the best measure of "quality of place" that predicted its presence.

WLI, RDI, BI, and MI were all variables that predict the presence of LI in µSA (Appendix H, Table 3). WLI, amenities, BI, and MI are the "quality of place" measures that best predicts LI in MSA (Appendix H, Table 4). In MSA, the independent variables better predicted the presence LI than in µSA. In µSA, MI negatively affected LI, while in MSA it was amenities. In both µSA and MSA WLI had a strong relationship and ability to predict the presence of LI, meaning if WLI increased so did LI. This was not surprising due to the strong connection in the correlation analysis. However, in µSA RDI was a stronger predictor of LI then WLI. RDI also had a strong link to LI. This helped to show that there was a bridging between certain CC indicators and traditional economic sectors. In µSAs the traditional economic sector of RDI was an economic engine of growth for LI.

The presence of EI in µSA was best predicted by WLI, BI, amenities and MI, where in MSA it was WI, BI, amenities, RDI, and SI (Appendix H). In both µSA and MSA EI predictors had a low ability to predict the presence of EI. BI and WLI had the greatest positive effect on the occurrence of EI in both µSA and MSA. In µSAs amenities and MI were both negatively associated with EI. Therefore, the lower the presence of MI and amenities the higher occurrence of EI there could be in a community. The same was found for RDI, MI, and amenities in relationship to EI in MSA. Amenities negatively affected the presence of EI in µSA and MSA, so it could be stated that amenities activity was not a relevant attractor for entrepreneurs. EI as part of the CC metrics had a higher standard of development, and it's not just simply an entrepreneurial starting a restaurant, bar, or other service sector business. EI as the notion of CC, develops, creates, and invests in innovative ideas and products.

WLI, BI, VMI, and SI had a low ability to predict ASI in µSA (Appendix H, Table 7). ASI in MSA had predictors of WLI, BI, amenities, and RDI (Appendix H, Table 8). These "quality of place" measures had a low ability to predict the presence of ASI in MSA. In the case of ASI it was hard to predict its presence in both µSA and MSA. "Quality of place" measures used were not the most adequate for what attracts ASI to an urban setting. In µSA VMI negatively affected the presence of ASI, therefore the lower the VMI index the higher occurrence of ASI. This compared to MSA in that amenities and RDI negatively influence the presence of ASI. However, SI had the strongest impact on attracting ASI in µSA. This showed that CC indicators and traditional economic sectors did have commonalities in µSA. There was a bridging

between the two sectors. SI was an economic engine for ASI in µSA. Where in MSA SI was not seen as an economic engine for ASI but rather cultural capital through BI was more attractive than the traditional economic sectors.

The regression analysis for SSI in µSA indicated that BI and SI had the greatest ability to forecast its presence (Appendix H, Table 9). SI had a negative connection to SSI, while BI had a highly positive influence on SSI. The same was true for SSI in MSA; the only addition was MI had a positive predictor (Appendix H, Table 10). This demonstrates that in both µSAs and MSAs cultural capital had a strong effect on the occurrence of SSI and other CC indicators. Communities needed to at least have a base level of cultural capital in order to be attractive to CC.

BI in µSA had VMI, amenities, SI, and MI as "quality of place" measures that predicted its presence (Appendix H, Table 11). In MSA all four indicators are present along with WLI and RDI (Appendix H, Table 12). Both sets had a rather low ability to attract BI to the both µSA and MSA based on R squared values. SI and VMI affect the presences of BI negatively in µSA and MSA, while in MSA RDI had the same affect. The higher the presence of these indicators the less BI one will find in µSAs. MI contributed positively to the presence of BI in µSA. This showed that the open presence of other minority groups of a community affected the occurrence of BI in µSA. The same predictions held true for BI in MSA with the addition of WLI confirming the notion that 'bohemia' in MSA are looking for a diverse, tolerant, and open community.

"Quality of place" measures in µSA showed variable influence on the CC metric. Overall, BI was the best predictor as an independent variable that represents the "quality of place" measures used in this examination of attractiveness factors of CC in µSA. BI provided cultural and entertainment amenities CC which looks for in an urban setting. After BI, WLI was the next important quality in a community that could help in attract CC. However, traditional indicators of tolerance and openness (VMI and MI) were not strong attractiveness factors of CC in µSA. SI and RDI mostly serve as 'push-factors' for CC in µSA with the exception of SI to ASI and RDI to LI. Without a high proportion of RDI and SI in µSA certain CC would not be as high or have a weaker connection in µSA especially when it comes to ASI and LI.

BI was an important attractiveness factor not just in µSA but also in MSA. Those that made up the CC indicators appreciate cultural capital as also demonstrated in numerous prior studies (Florida, 2002; Gertler, 2005; Markusen, 2004). Tolerance and openness measures of VMI and MI were not as important factor in predicting CC in either µSA or MSA. WLI did a better job in predicting CC to both µSA and MSA then VMI and MI. This showed that CC was tolerant and open. When it came to the traditional sector economies measures amenities, RDI, and SI were good in attracting certain groups of CC which in the end may have had an effect on the presence of other CC. Overall, the "quality of place" factors for MSA were better predictors for attracting CC. There were other underling factors that attract CC to µSA that were not measured, e.g. the intangible factors could be a strong drawing factor for µSA and not as significant

for MSA such as social and civil capital. MSAs may reduce the role of social and civic capital.

Cluster Analysis and µSA Typology

In order to investigate the geography of CC and develop a typology in µSA across the U.S. Midwest and to identify typological differences among the µSA a cluster analysis was performed. In order to perform cluster analysis two steps were taken. First, the agglomerative clustering which was used to determine the number of clusters and second a k-means clustering procedure was performed.

The hierarchical clustering showed that there are five distinct groups among the µSA. The aggregations of CC characteristics were then identified based on the five groupings (Table 11). The first cluster of µSA includes µSA that were creative 'hotspots.' These communities had a strong presence of all the CC indicators. All the CC measures had an LQ average above one with the exception of BI at 0.9147 which was still rather high for µSAs in the Midwest. There are only three communities that fell into this cluster which were Pierre, SD, Midland, MN, and Brookings, SD. The second cluster, which had six µSA communities in it, formed the 'brains and arts' communities. The communities that made up this cluster included: Vermillion, SD, Macomb, IL, Spearfish, SD, Carbondale, IL, Athens, OH, and Branson, MO. They exceeded the US baseline of one in the CC indicators of TI and BI. These communities also had a strong presence of SSI and LI while lacked in ASI and EI. The 'up and coming' communities formed the third cluster. There were 29 µSA in this cluster and examples were Marshall,

MN, Traverse City, MI, Aberdeen, SD, McPherson, KS, and Rolla MO. Cluster three had a higher presence of CC in regards to µSAs in the Midwest but still was below the national base line. This cluster's major lacking CC indicator was ASI. The fourth cluster was the 'brains with hands.' There were 40 µSA that made up this first cluster. Examples of these communities were Alexandria, MN, Hutchinson, MN, Stevens Points, WI, Jamestown, ND and Findlay, OH. There major lacking was in SSI which had a low presence in the µSAs that formed cluster three. However this cluster had a higher presence of ASI than cluster three with an average LQ of 0.7921. The fifth cluster had 112 communities and was the 'not so hot.' These were µSA did not have a strong presence of CC with the exception of LI at on 0.8286 LQ average. LI showed significance in every cluster. This could be due to several of the µSA being county seats or had a large share of farm management, which was included in the measuring of LI occupations. Examples of communities from the lacking cluster included: Mitchell, SD, Effingham, IL, Mason City, IA, Fergus Falls, MN, and Great Bend, KS.

Table 11

CC Characteristics of Typological Groups (Clusters)

	Cluster				
	Creative Hotspots	Brains & Arts	'Up and Coming'	'Brains with Hands	Not So Hot
TI	1.2229	1.1113	.8331	.7187	.5606
LI	1.1523	.9067	.9469	.9105	.8286
EI	1.0091	.5910	.6694	.6691	.5577
ASI	1.1582	.4511	.4806	.7921	.4453
SSI	1.6461	.7760	.7665	.5338	.4184
BI	.9147	1.5688	.7742	.7079	.4587
No. of µSA	3	6	29	40	112

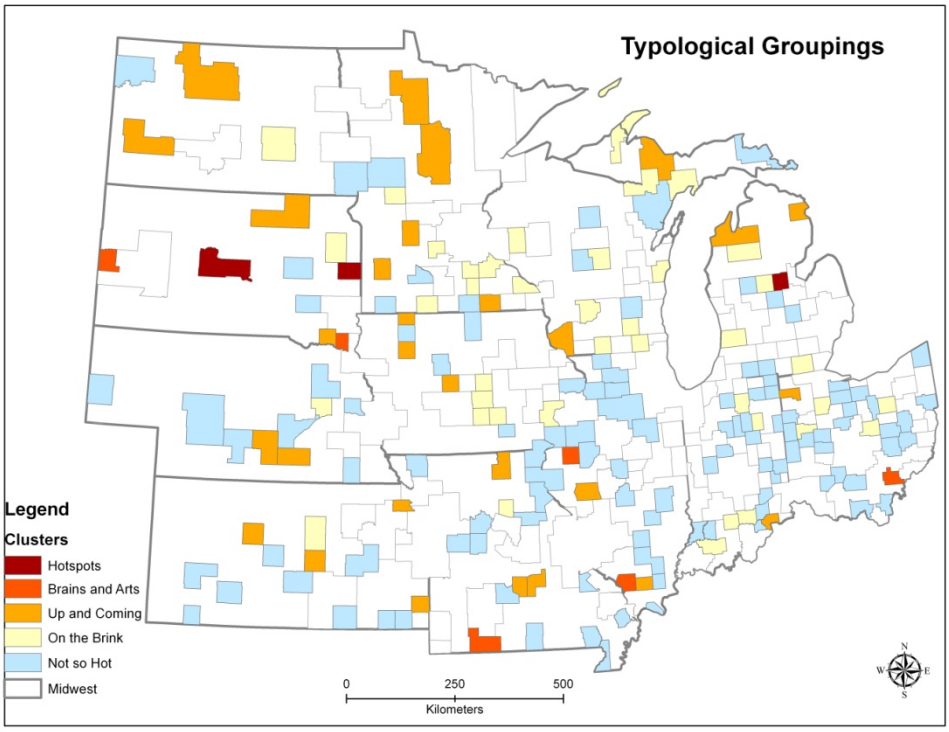

Figure 12 Typological Groupings Map

Principal Component Analysis

To better understand the interrelationships among CC and technology production, innovation and economic growth a principal components analysis (PCA) was conducted. PCA helps to identify covariance within the dataset and to find connections between indicators that cannot be directly measured. Although in the study the number of indicators was limited; PCA was still a useful tool for examining the variables covariance and possible groupings. Tables 12, 13, and 14 showed the results of the PCA between the CC indicators and the measures used to represent technology production, innovation and economic growth through TPI, patent production, and income per capita.

Table 12 showed two different principal components. The first component had high loadings of TI, LI, SSI, and BI. A strong relationship among these indicators was noticed in the correlation analysis. This was additional evidence that CC tends to cluster and more importantly that these four measures of CC had a strong bond with each other. ASI, EI, and TPI were heavily loaded on component two. This showed that ASI and EI had the strongest connection to technology production. SSI had a moderate loading on component two, which was not surprising due to its strong correlation between the two variables. Occupational bearing on TPI had a greater influence on it over formal education. BI and LI had a weak loading to component two reflecting a disconnection between these forms of creativity and technology production. However, TI had a moderate loading in component two.

The next PCA model includes patent production instead of TPI (Table 12). There were two components identified from the analysis. Component one had heavy loading of TI, LI, SSI, and BI. In component two ASI, EI and patent production were heavily linked to one another. ASI and EI were the driving forces behind patent production. These occupations had the greatest bearing on patents while the formal education attainment (TI) had a surprisingly weak bond which showed a disconnection between the two. When it came to innovation and knowledge production ASI and EI were drives and creators of it in μSA communities. SSI was seen as having a moderate influence on both TPI and patents at least more so than TI, LI, and BI.

The final PCA used the same CC variables and per capita income. Table 14 showed two distinct components. The first component was made up of LI, EI, ASI, and per capita income. This showed that there was a split among the CC metrics into two groups. However this time LI joins EI and ASI as variables had a stronger covariance with income per capita, i.e. economic prosperity. The weak loading of BI and SSI in component one showed disconnect with per capita income. TI had a moderate link which showed that formal education was important in generating income.

The PCA showed that ASI and EI had the strongest connection to innovation, technology production and economic prosperity variables. SSI had a moderate connection technology production, which was also seen in the correlation analysis. LI had a strong connection to economic well-being. However, TI and BI had the weakest loadings to all three showing there is a disconnection between them and innovation,

technology production and economic potential variables observed in μSAs. Entrepreneurial, applied science and leadership had a stronger influence on innovation, knowledge production, and economic well-being than education.

Table 12

PCA of CC Metric and TPI

	Component	
	1	2
TI	.871	.252
LI	.623	.105
EI	.331	.631
ASI	.008	.882
SSI	.573	.399
BI	.780	.147
TPI	.275	.623

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization..

Table 13

PCA of CC Metric and Patents

	Component	
	1	2
TI	.904	.138
LI	.585	.142
EI	.418	.602
ASI	.155	.804
SSI	.636	.285
BI	.794	.046
Patent	.041	.806

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Table 14

PCA of CC Metric and Per Capita Income

	Component	
	1	2
TI	.352	.827
LI	.705	.189
EI	.737	.246
ASI	.536	.232
SSI	.198	.730
BI	.077	.851
Per Capita Income	.875	.036

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Discussion of Quantitative Analysis

The first objective of the study was to analyze and identify the role, characteristics and geography of CC in µSA to bridge the knowledge gap about CC in smaller cities. A general observation geographically there was a presence of CC in µSA across the U.S. Midwest. Certain µSA had a greater occurrence of CC then other communities as noted from the rankings and spatial representation, and some demonstrate levels of CC comparable MSAs. Top ranked µSA scattered across many states. In the top 20 rankings of individual CC indicators at least one µSA was found in every state in the Midwest. However, in the overall ranking of CC there was a higher occurrence of µSA that did well in North and South Dakota, Minnesota, Wisconsin, and Michigan. This was because communities there and had the highest concentration of CC. The geography of 'talent' in

µSA was uneven across the Midwest as seen in the studies of MSA (Florida 2002, 2012). Another important observation was that location to MSA did not seem to have any effect on CC in µSA. µSA with high and low CC rankings were located next to MSA or isolated communities. However, communities with high presence of ASI had a tendency to locate and cluster outside of MSA.

CC has a tendency to spatially cluster (Markusen, 2004) which could be seen in µSAs. When ranking the µSA based on individual CC indicators and cumulatively several of the same µSA appear at or near top rankings. This leads to the notion that CC cluster together and were attracted to the presence of other CC groups. The final cluster analysis also revealed that CC clusters in communities where it was highly concentrated. The µSAs in cluster one creative 'hotspot' had been able to attract all CC at a higher rate. However, those µSA in 'up and coming' (cluster three) or on the 'on the brink' (cluster four) clusters were both groups of communities that had higher presences of CC for µSAs in the Midwest. They did lack in one measure of CC either ASI for cluster three or SSI for cluster four. Diversity of the local economy was important to attract all of the CC measures and not just one indicator of CC. CC did cluster enough in certain µSA that the concentration of CC was greater than in many MSA's. This leads to several µSA ranked in the top 50 urban centers across the Midwest e.g. Pierre, SD, Midland, MI, Marshall, MN, Brookings, SD, Vermillion, SD, Traverse City, MI, Hutchinson, MN, and Aberdeen, SD. Therefore, this analysis demonstrated that CC was present in non-central regions of the world other than MSA or global cities.

The performed statistical analysis conveys the characteristics and role CC played in the µSA. The correlation analysis results showed that all the CC measures were positively and significantly related to one another alluding to the idea of a *synergy* among the CC measures (Petrov, 2007). This relationship among the CC variables showed that there was a close association between them. The results from the cluster and rankings showed that if two or three CC indicators had a higher presence in a µSA then there was more of a chance that other components of the CC will also be present or in the area. One CC component influences the presence of another in a positive manner reinforcing their innovative potential (McGranahan et al., 2011; Petrov, 2008, 2011). Overall, the correlation analysis showed that the association among the CC indices closely resembles other parts of the U.S. including both MSAs (Florida, 2002, 2012) and rural counties (McGranahan & Wojan, 2007, McGranahan et al., 2011).

Even though there was a synergy between all the CC indicators as individual measures there were stronger bonds among some of them. The regression analysis showed that each CC index can better predict the presence of some CC measures over others. For example, TI as the most important factor in predicting other CC measures in µSA and MSA. Communities with higher education attainment rates or TI had larger shares or ability to increase CC. Education was also important for attracting other CC to the community and gave µSA the chance to be potentially innovative and creative. Educational attainment could be one of the base engines for CC accumulation. µSA with high TI and or institutions of higher learning attracted CC that could lead to innovation, knowledge production, and economic stability.

At the same time, there were differences between Midwest μSAs and MSAs when it came to characteristics of CC. The CC measures in MSA were positive and had a strong inter-relationship. There was a more pronounced synergy that resulted in a higher innovative potential among the CC in MSA than in μSA. The regression model of the CC indices as the independent variable had a greater ability to predict the presences of the CC as the dependent variable in MSA. In other words, CC in MSA attracted or predicted the occurrence of other CC components at a greater potential then in μSA. The correlation and regression analysis showed that there are regional and spatial differences in influence and relationship of CC.

The possible innovation potential of CC leads to discussion of the connection between CC, knowledge production, and economic well-being. It had been shown that CC can lead to innovation production, and increasing economic prosperity (Florida, 2012; Petrov, 2008, 2011). Based on the correlation analysis CC measures had a strong relationship with the employment in high tech industries (TPI). All CC metric affected the technology sectors in μSA in a positive manner. The presence of CC could lead to greater technology production and expansion of technology sector. Technology projects often need and used CC in a form of educational, skilled, and entrepreneurial creativity (Petrov, 2011). The principal component analysis broke down the connection even further between TPI and CC. TPI was loaded heavily with ASI and EI and had a moderate covariance with SSI. This showed that occupations rather than formal education had a stronger link to TPI in the case of μSA. Through this connection CC showed the ability to contribute to knowledge and production. This was different than in

the peripheries of Alaska and Canada where formal education had a strong connection to TPI (Petrov, 2008; Petrov & Cavin, 2012).

CC connection to patent production was another way in which innovation and knowledge production are manifested. Patent production was measured as an average number of patents created over five years in the μSA. The correlation analysis results showed that all the CC measures had a positive and significant relationship to patents. This connection helped convey that CC had the potential to enhance innovative outputs through patents. Through the PCA, patents had the strongest loading with ASI and EI as TPI did. SSI once again had a moderate link to patents, while TI, LI, and BI had weak connections. The correlation and PCA results showed that technological innovation as represented by patents production was affected by CC. Occupational measures had a stronger effect on patents and innovation than TI. However, formal education indirectly also helped to create the potential for innovation (i.e. scientific and entrepreneurial capital). The PCA and correlation analysis of CC with patents and TPI showed that ASI and EI as the two most important CC measures to help increase and produce innovation and knowledge outputs in μSAs. It was interesting that SSI had a moderate influence on innovation and knowledge production measures in μSA, but in examining the occupations that made up SSI (medical scientist, chemists, biologists, and physicists along with other scientists) it was not difficult to make a logical connection to the innovative potential.

The linkage between CC and economic prosperity was similar to innovation and knowledge creation in that CC had the ability to advance community economic well-being. CC indices all positively and significantly correlated with per capita income. Therefore, CC had the potential to increase per capita income in µSA. PCA showed that pre capita income had connection to LI, EI, ASI, and TI. The PCA showed that formal education also had a strong inter-relation with income levels of the community. However, occupations in LI, EI, and ASI had a stronger vital role in the inter-relationships of pre capita income.

When it comes to innovation and economic well-being two other measures affected them positively. SI had a positive and significant relationship with patents, which is a form of innovation production. SI was seen as a key innovation in local economies (Scott, 2006). SI had been linked to rural development and growth (Stroper, 1999), and many µSAs are economic centers for surrounding rural counties. In the Midwest, µSA had a stronger connection to rural or periphery regions rather than MSA. Producing new innovations through patents created development and economic well-being for the µSA. Firms in SI were being creative enterprises and challenging the traditional ideas of innovation in the field (Stolarick et al., 2010). In µSA SI had a role in producing innovative outputs through ASI even with all other CC measures had negative links to SI. RDI had a positive effect on economic well-being through its significant correlation with per capita income just as the CC measures. RDI and SI relationships to economic well-being and innovation showed there was a bridging of old traditional sectors (RDI and SI) and new knowledge base economy (CC) leading to economic

development in µSA (Aarseather, 2004; Morgan, 1997). This bridging between the traditional and new economic bases could also be seen through the correlation analysis. ASI and SI had a significant and positive relationship while LI and RDI had the same relationship. RDI did seem to connect better to the knowledge base economy then SI due to positive relationship with LI and TI and non-significant negative links to EI, SSI, and BI.

Another objective of the study was to examine the factors that affected the presence of CC in µSA. From the ranking analysis communities that ranked high in CC lacked in "quality of place" measures. There were only five communities that overlap in each top 20 rankings. The weak linkage between CC and "quality of place" was further supported by the correlation analysis. WLI and BI (as a "quality of place" measure) correlate positively and significantly with all the CC indicators with one exception of ASI and WLI. The disconnection between ASI and WLI would be expected due ASI and LI not being significantly correlated and WLI representing women in roles of leadership and management. Openness and tolerance of a µSA did not appear to be as an attractive factor for CC in µSA which was not in line with other research findings in larger MSAs (Boschme & Fritsch, 2009; Florida, 2002, 2008, 2012; Mellander & Florida, 2006). However McGranahan and Wojan (2007) found that counties with high percentages of African American and Hispanic populations had substantially lower rates of creative class. µSA in the Midwest acted as the economic and social base for rural dynamics rather than MSA. Florida's (2002, 2012) traditional notion of "quality of place" through openness and tolerance did not have a strong effect on attracting CC in µSA. The

disconnection between CC and traditional "quality of place" measures used points to there being other factors that attracted CC to µSA. There may be underlying factors such as social and civic capital that are difficult to identify using quantitative analysis. The disconnection between CC and "quality of place" measures used helps validate a need for deeper statistical analysis but more importantly qualitative studies.

"Quality of place" also measures amenities. Local amenities were seen as being attractive to CC and economic development (Aasrsether, 2004; McGranahan & Wojan, 2007; Mellander & Florida, 2006; Stolarick et al., 2010; Stroper, 1999). Local amenities as a "quality of place" measure were linked to the presence of CC in µSA. Higher levels of available amenities helped to attract CC potentially providing services that individuals look for and need in a community. In order to maintain and growth of CC and economic prosperity basic amenities must be provided. RDI and SI in regards as "quality of place" measures did not have the same attractiveness factor as amenities, BI, or WLI to CC. Resource based industries (such as SI and RDI) were not attractive to CC but rather the working class (Stolarick & Currid-Halkett, 2012). However there was an exception of ASI in relationship to SI and LI to RDI both CC were correlated to their respected resource base industry in a positive and significant manner.

"Quality of place" measures along with CC indicators helped to explain the presence of CC in µSA. "Quality of place" also showed what was not attracting CC to µSA. Overall "quality of place" measures did not reveal what attracted CC in the case of µSA. There were other factors that draw CC to µSA which can explain either by case

study analysis or further investigation of more statistical analysis and different variables. However, before further variables can be added to “quality of place” measures, it is important to have an idea in which direction to expand. Conducting case studies or µSAs and asking the correct questions can guide the research in the right direction for additional “quality of place” measures. Interviews with key informants provide knowledge and understanding of what attracted residents in particularly CC to their µSA. This could give insight to future direction of “quality of place” variables used in measuring attractiveness of CC in µSAs. Case studies may also reveal other variables about CC and attractiveness factors that cannot be measured statistically. This makes it important to conduct interviews with key informants to better understand CC and what draws it to a µSA.

CHAPTER 5

CREATIVE TOWNS: µSA SUCCESS STORIES FROM IOWA

Introduction

The µSAs of Pella and Oskaloosa were chosen to represent success stories of µSA across the Midwest that did well overall in regards to CC. City officials were then interviewed from both communities to develop a deeper understanding of CC and "quality of place." Both interviews had common major themes in regards to CC and "quality of place." However, before discussion of the themes a description of Pella and Oskaloosa was conducted for better understanding of the two communities, along with an analysis of individual rankings for CC and "quality of place" measures.

Description of Pella, IA and Oskaloosa, IA

A Touch of Holland

Both communities are located in south central region of Iowa. They are positioned outside of Des Moines, IA. Pella located 43 miles from of Des Moines, IA, while Oskaloosa found 60 miles away. However, only 18 miles separate the two communities. The µSA area of Pella, IA located in Marion County just southeast of Polk County (were Des Moines, IA is located). It was not until 2010 that Pella, IA had the total population of 10,352 while the entire statistical area had a total population of 33,378 (U.S. Census Bureau, 2010), which reaches the minimum population of a core community needing of greater than 10,000 for a µSA. Demographically, the µSA of

Pella's population predominately white (96%) with small representation of other races at 4%.

Pella had an extensive manufacturing industry with manufacturing plants of Pella Corporation, Vermeer Corporation, Precision Pulley and Idler, Van Gorp Corporation, and other smaller firms. This gives Pella a strong industry dependency or SI of 2.13, (but still not as high as other µSA across the Midwest). Not only do these firms have their manufacturing plants in Pella, but they have their corporate headquarters in Pella. This includes Pella Corporation, Vermeer Corporation, Precision Pulley and Idler, Van Gorp Corporation, Pella Product, Inc., and ICE technologies. The presence of these corporation headquarters and R&D, along with other local business explains Pella's relatively high LQs in LI at 1.03, EI at 0.71, ASI at 0.99, and TI at 0.86, which are all above the µSA average. Pella is home of Central College, a four year private liberal arts institution. At the same time the presence of Central College also helps increase the high LQ for TI. SSI did not have a strong showing in Pella standing at only a LQ of 0.29 below the Midwest µSA average of 0.5265.

Among µSA across the Midwest, Pella had an overall CC ranking of 26th (Appendix A). Pella's comparison along individual measures of CC, ASI had the best ranking of eighth, while SSI had the worst ranking of 166th. Pella in comparison of µSA and MSA CC rankings ranked 89th out of 288 (Appendix D). On individual CC measures, Pella's LI ranked best at 35th followed by ASI at 43rd. SSI ranked again the worse at 263rd.

In addition to Pella's thriving economy, there are a variety of cultural, amenities and "quality of place" aspects. Pella has a strong Dutch heritage, who settled in the area. This heritage has a strong influence on the development of Pella today, from its historic village which features a running mill and many museums, to the main churches on many street corners. There are also several festivals throughout the year. Their largest and most well-known is the Tulip Festival which started in 1935 and features everything Dutch about Pella. Pella has several other amenities in its vicinity that serve as points of attraction such as; Lake Red Rock with trails, boating, fishing, bird watching and camping. Racing has become another past time and attraction for the surrounding area with Iowa National Speed Way in Newtown, IA and Knoxville Sprint Way, in Knoxville, IA both less than 30 minutes away.

However Pella's "quality of place" ranking did not fare as well even with the variety of culture and amenities. Overall, "quality of place" was 130th out of 190 µSA (Appendix B). Pella ranked 240th out of 288 µSA and MSA (Appendix E). Pella's low "quality of place" resulted from the low rankings in minorities, and foreign-born population. Pella also had high LQs in SI and RDI which lowered its overall "quality of place" ranking.

Note the Difference

Oskaloosa, IA is the core community in the Oskaloosa µSA located in Mahaska County. Oskaloosa has total population of 11,463 in 2010. Oskaloosa has had a stable population above 10,000 since the 1930s. The statistical area had a total population of

22,382 (U.S. Census Bureau, 2010). Demographically the µSA of Oskaloosa was 96% percent white. African American, Hispanic, and Asian minorities all made up about roughly 1.5 percent each or the remaining four percent of the population.

Oskaloosa is similar to Pella in that at its core economic activities historically are based on manufacturing and production industries. Oskaloosa µSA largest employers are Musco Lighting, Clow Valve Corporation, Cunningham Inc, Interpower Corporation, Oskaloosa Food Products, and Cargill. Like Pella, Oskaloosa has corporate headquarters in the µSA such as Musco Lighting, Clow Valve Corporation, and Cunningham Inc. Many of the major companies in Oskaloosa have R&D sectors in the statistical area of Oskaloosa such as Musco Lighting, Clow Corporation, Cunningham Inc, and Cargill. William Penn University also plays an important role in R&D especially when it comes to helping adults advance in their education. One of the most prominent research aspects that William Penn University offers is Communication Research Institute. It's dedicated to television broad casting of local community cultural, sports, and news events.

Oskaloosa in terms of CC index overall ranked 29th out of 190 µSA (Appendix A). Individual indicators ranked variously with BI at 18th, LI at 19th, ASI at 31st, EI at 78th, TI at 91st, and SSI at 95th. In comparison µSA and MSA CC rankings Oskaloosa ranked 97th out of 288 communities (Appendix D). Again Oskaloosa had the highest ranking in LI at 28th and BI at 42nd. SSI at 170th and TI at 172nd had the worse individual CC rankings in Oskaloosa at the combined µSA and MSA rankings.

Oskaloosa provides a wide array of cultural and natural amenities for those living in the area. Culturally Oskaloosa hosts one of the oldest standing Municipal Bands west of the Mississippi River. Oskaloosa also has a community theater and symphony orchestra. Tourism and historical attractions in the area are the Nelson Pioneer From, and McNeill Stone Mansion Museum. Not far from Oskaloosa are the National Speed Way in Newtown, IA and Knoxville Sprint Way, in Knoxville, IA. There are several natural amenities in the area including several parks and recreation areas in the µSA such as Lake Red Rock. A new sports complex was built for use of local sports teams, the high school, and William Penn University.

Oskaloosa's "quality of place" metric did not rank as highly as its CC index (Appendix B). "Quality of place" ranking for Oskaloosa was 155th out of 190 µSA communities. Its ranking for µSA and MSA "quality of place" was 250th out of 288 (Appendix E). The reason for Oskaloosa's low ranking in "quality of place" was due to the high LQ of SI at 2.34 and RDI at 3.31. Another factor was the lack of minorities and foreign-born in the community as displayed in the demographics of the µSA of Oskaloosa.

Interviews with City Officials

Regional Economics

Both Pella and Oskaloosa were able to maintain economic activity through the years of recent recession. The µSAs had relied on their strong manufacturing base to maintain economic employment and well-being. City officials of Pella and Oskaloosa

both stated this importance of manufacturing and exporting in their respected communities.

> Primarily manufacturing and export in the area and everything else supports it. (Oskaloosa City Official)

However manufacturing is diversified both communities. The diverse manufacturing base could be attractive to CC and helped to bring in a wide arrange of CC occupations either in areas of specialization within a sector or one of the vast job opportunities among the different firms.

> We are heavily reliant on manufacturing it is diverse between construction, mining, and other. This provides an instillation for the industries when one is down another seemed to be up. (Pella, City Official)

Since manufacturing and exporting were considered a central pillar of economic activity in the two μSA, there was constant development of new products by the manufacturing and exporting firms. In order for the companies to design and produce new goods and services, research and development (R&D) played a critical role. The R&D centers located in Pella and Oskaloosa helped explain why these two communities both had high ASI. Local firms used innovative R&D in a vital way to expand their business and stay ahead of the competition within their sector of manufacturing and exporting.

> Around 70% of our local communities businesses are expecting to come out with new product in the next five years and about 77% of companies indicate they are

> exporters of their product which is above the state wide average of 39%. (Oskaloosa, City Official)

New products and strong exporting was not the only innovative form of economic activity coming out of the region. There was also an entrepreneurial drive and creativity within the communities that leads to even further development.

> A lot of manufacturing employees left and start up entrepreneurially and then invent something new and then hold patents within the new innovation. (Pella, City Official)

Entrepreneurial capital was also seen outside of the manufacturing sector in the example of ICE Technologies. It was a startup company based in Pella that saw the potential in information technology services in the healthcare market. It was started by two locals that saw a need for this service. Today they now have customers and do consulting working across the U.S.

Regional Economic Influence

The large manufacturing economic base as well as expanding employment opportunities for CC in these two communities had a significant influence over south central region of Iowa's economic activity and labor shed.

> We have a labor shed in the area; we draw employees from up to 90 miles away from northern Missouri to as far north as Waterloo. They work at Pella Windows, Vermeer and others. They are concentrated at 30 miles away the nearby communities. Pella Windows and Vermeer are the largest employers in the region. (Pella, City Official)

Due to Pella and Oskaloosa being so close to one another there is labor sharing among the companies in the two communities. Pella Corporation, Vermeer, Musco Lighting and several others share a labor pool.

> If you look at the employment base the work force it is a regional economy, 30% of Cargill lives in Oskaloosa. The largest employers in community are Pella Corporation and Vermeer. There is a lot of labor shed sharing in the region. (Oskaloosa, City Official)

With such a connected and shared labor pool it brought up two important issues. First is the knowledge sharing between employees and companies through personal interaction. Second is a need for a wider and more educated work force to meet labor demand in the region. In regards to employee drift, companies often loose former employees to another local area firms. This happened at all levels of employment from assembly line works, wielders, machinist, engineers, computer scientist, and management. However, this was not the only way tacit knowledge was being spread from company to company. The upper management of local firms on occasion do still get together to discuss basic business and management practices. At these gatherings firms also discussed the needs of the community in general and economically.

In these business meetings they debate how they can help the local community grow as whole. Many companies encourage their employees to be part of the community as they would like to be. Besides employee reinforcement of community involvement the companies were and still are major sponsors of many of the local festivals, school events,

and other charitable works. Their reason was as individual companies and as a whole they understand that a strong community helps them to be better companies. Companies along wither their employees were engaging in social and civic capital.

> Musco Lighting and other companies in Oskaloosa have a foundation and understanding that if the community does not have strong amenities, if you don't allow the employees to be involved in the United Way, school board, church board, or run for council, then the community is not strong and does not have strength in all aspects or organization of the community then the companies also lacks. Companies have encouraged employees and team members to be part of the community and help it grow in whatever interest them. That is why companies will be able to continue to stay and grow. The city takes care of the big structure and a corporate philosophy of giving back in term of foundation to the community. (Oskaloosa, City Official)

The community development boards and committees had realized the need for companies to invest back into the community socially and civically. The boards and committees then target new or encourage existing firms to do the same in provide for the community. Firms that invest into the community have a strong tie to the area and were more likely to stay creating greater economic stability in order to attract CC.

> What have a tendency to work our medium size companies and they tend to have more of an awareness to invest into the community. They (the firms) stay in the community and those are the people we should target and recruit to the area. (Oskaloosa, City Official)

The second important need was for quality employees. The necessity of a larger work force was a concern of many of the local industries and corporations in both Pella and Oskaloosa. There was difficulty in finding quality employees at white collar and blue collar positions. As a group, firms worked together to promote and build a quality

labor force in the µSAs. One way they built a stronger labor force was through joint effort with the William Penn University in Oskaloosa, Central College in Pella, Indian Hills community college in Oskaloosa, and area local high schools. For example, they created job training course that meets the needs of the local industries. Cargill worked extensively with India Hills Community College in Oskaloosa to develop a two year engineering program that helps fill Cargill's labor forces needs for engineers at their Oskaloosa facility. Internship positions through Central College in Pella and William Penn University in Oskaloosa help educate and fill occupational jobs that made up the CC index.

"Creating an ambiance for residents and visitors"

Due to local firms and individuals interest in the local community it helped to create an atmosphere about the community that was unique and different. Through their actions they have created a standard of living in the community that affects its qualities and amenities. Through this "quality of place" formation the community as a whole became an attractive area for current residents, future residents, and visitors that come. Below is an examination of the amenities, programs, cultural and social capital of both Pella and Oskaloosa that helped make them unique.

Pella and Oskaloosa both created programs to help showcase their respective communities to current residents and businesses but also to help in attracting future employers and employees. Oskaloosa came up with the slogan 'Note the Difference.' 'Note the Difference' informs people about the community's best variety of events,

cultural activities, the local economy, health care, education and social capital. This highlights what happens in Oskaloosa. The city government, Enterprise Zone Commission, and local businesses could use this as a base for attracting new business but more importantly future employees and residents.

Pella had a different approach to the same concept as Oskaloosa. Pella's Chamber of Commerce partnered with the city government and local area businesses to develop 'Positively Pella.' 'Positively Pella' is for perspective employees of local business. During the interview process the candidate for the position got the chance to meet with a member of the Chamber of Commerce or Visitors Center to go over what Pella offers as a community. This helped local employers reduce turnover and attract top candidates to their companies.

> Something that is unique to Pella and driven by employers to reduce employee turnover, since it is expensive to recruit top employees the companies want them to like the community and the job they are doing. There are four major companies that participate in the program called Positively Pella. The program does a few things for people to look at the community. The other two parts are for when companies bring in prospective candidates to meet with the director of the program and they get a tour of Pella and get a chance to talk about the quality of life things and amenities in Pella. It also gives them (the candidates) a chance to ask question that they could not ask during the interview. The program will then follow them (new residents) for a year and invite them to new resident's events and help them address problems they may have. (Pella, Chamber of Commerce)

The program in 2011 alone helped 400 new households to move in and adjust to the area. Both 'Note the Difference' in Oskaloosa and 'Positively Pella' in Pella highlight the variety of amenities and cultural capital present that is seen as attractive for CC. All of

this is part of “creating an ambiance for residents and visitors” (Pella, Chamber of Commerce). Once again this showed engagement in social and civic capital.

Community Amenities and Culture

The statistical analysis showed that Pella and Oskaloosa both rank poorly in “quality of place” measures. The case studies showed that Pella and Oskaloosa both cater to the needs and desires of the local residents when it comes to amenities and cultural capital. Oskaloosa and Pella did not pursue the creation of a large tourism industry such as some MSA or vacation ‘hot spots.’ However, both communities do benefit from cultural events and amenities that draw in large numbers of visitors to south central Iowa each year.

> Pella is known for their tulip festival but there are other unique events that attract people. As an area racing has become very big. Spring car racing has become popular, which Knoxville hosts nationals drawing in over 100,000 people. Newton which is half an hour away has the Iowa Speed Way that draws tons of funds to the area. The other aspect of the area is Lake Red Rock, Iowa’s largest lake outside the community which is a very big recreational attraction. The 1,000 camp sites run at a 98% occupancy rate during summer months. We have the luxury of being diversified and we can concentrate on the Tulip festival and our Dutch heritage but we do have these other aspects to draw people to the area. (Pella, City Official)

There is more than just these regional events that happen to help Pella and Oskaloosa to maintain and attract CC.

One way Oskaloosa and Pella create a unique feel was by engaging their cultural capital through events. Both communities have a rich history of cultural capital in a wide

range of activities and events. Pella does have a stronger heritage connection to the past than Oskaloosa. Dutch culture has a strong influence on Pella's culture. As part of their heritage, Pella has a Tulip festival every year during May, which is iconic of many Dutch communities across the U.S. and Canada. Besides hosting 'Tulip Time,' Pella has a historic village that futures 24 buildings but the most iconic building and symbol of Dutch heritage is an authentic working Dutch Mill brought over from Holland. The Dutch heritage of Pella provides it with a truly creative and different outlook on cultural capital that residents and visitors can enjoy and provides a unique experience.

Another way that Oskaloosa and Pella engage their cultural capital is through the fine arts. Both communities take pride in being able to offer residents the chance to experience live venues and performances.

> Central (College) has every type of musical, acting, writing, performances two or more times a week, which are open to the community or anybody. We (Pella) also have a community arts center funded by the city for actives for both adults and kids. They have their own art studio that adults and kids can go in and use it as a creative outlet. There is an art gallery that is community owned as well that people can showcase their art. There is the Union Street Players in which adults and kids can perform. There is also the Pella Opera house, which is used in a variety of performances from local and national talent to international as well. (Pella, City Official)

Pella takes advantage of the presence of Central College fine arts events. Oskaloosa also gains from the local university when it comes to culture and entertainment. One of the main highlights that William Penn University offers is the Communications Research Institute (CRI) which provides the community with opportunities to enjoy local events and educate the local youth about television production.

> William Penn offers a program called CRI or Communication Research Institute that specializes in quality, Emmy award winning television production and produces weekly news. It was started by Mark Roserwaster who was the producer for Katie Couric, and has the dual role of adjunct producer (at CRI) and runs New York Public Television. He came in to help things get going and it's been very successful. They do focus on the community based but do have people come in and do theater and sitcoms. Community based programming reaches down to the high school and junior high and allows them to film sporting events and plays so they feed into the community. (Oskaloosa, City Official)

CRI is not the only cultural capital that is present. Oskaloosa has a rich history and enjoyment of musical performances whether it be the municipal band or at the high school level.

> We have a strong musical background and history with music based on our municipal band and band stand. We have one of the longest standing municipal bands west of the Mississippi (River). We actually tax people for this. It (the band) plays every Thursday during the summer. (Oskaloosa, City Official)

> The daily auditorium which is located at the school brings in off Broadway productions once a month. They have additional programs at the school such as the symphony. So there are a lot of opportunities to see plays and hear music concerts. (Oskaloosa, City Official)

Each community still has more amenities to offer for CC attraction and retention of residents. Outdoor recreation is an important amenity to Pella and Oskaloosa. Both communities have miles of trails throughout the city, extensive park services, aqueduct centers, sporting complexes and multiple golf courses. Just outside of Oskaloosa there is wet land preserve that is ran by the county conservation. They provide many opportunities for people to learn about nature through camps for children or educational classes for adults.

The last two amenities noted by the city officials of Pella and Oskaloosa were the quality health care and school system in the communities. Pella and Oskaloosa had both taken measures to enhance their health care systems and educational systems. Pella health care system brings in health care specialists from Des Moines to Pella.

> With being so close to Des Moines we have the ability to having health specialist come to Pella. This way, employees do not have to take time off to travel to see a health care specialist. (Pella, City Official)

To enhance health care in their community, Oskaloosa worked with William Penn University and offers a new nursing program. This joint effort benefits the community by staffing local clinics, hospitals and nursing homes with quality nurses.

The local school systems benefit from partnerships with the higher education institutes in Oskaloosa and Pella. William Penn University, Central College, and Indian Hills Community College all offer courses and programs for high school students to advance their education. William Penn University and Indian Hills Community College both have course for working adults to help in their education attainment and job placement or advancement. The local firms and school systems benefit from these partnerships by getting local students involved and interested in fields of communication research, engineering or others. These partnerships create a stronger school system in Pella and Oskaloosa. The primary school system has become an important amenity for the current residents or those who recently move into the community.

> The last Hy-Vee manger had a choice between two locations: Oskaloosa and a larger metropolitan area. He chose Oskaloosa over the other locations because of the better school system and amenities. (Oskaloosa, City Official)

The Highway Goes Both Ways

The City Officials of Pella and Oskaloosa stress the positives and negatives of being located close to the MSA of Des Moines, IA. Pella and Oskaloosa both use Des Moines as a selling point in retention of CC. It provides an extra feature to the µSA. Des Moines does have many of the larger attractions people look for such as sports teams, large production, and more vibrant culture.

> We do highlight the distance to Des Moines (IA), it is only 40 minutes away. If they do want major concerts or sporting events its 40 minutes away. We do have a lot of people from the coast or major cities that are used to having everything at their disposal. At the same time they are used to driving an hour to get there. We point that out it's the same but only in a different location. (Pella, City Official)

CC can live and work in one of the two µSA but still have access to high end goods and services often found in the MSA which can be seen as a positive for µSA. However, the highway does go both ways and they do lose talent to Des Moines. Oskaloosa and Pella both lose on retail retention to Des Moines, which means lost amenities and services CC would like or need to have in their preferred community of living.

Engagement of Social Capital "Quality of Place" Formation

Throughout the two interviews there was an underlying attractiveness factor or "quality of place" for CC and other residents to these two µSA that was not picked up on

by the indicators. From the interviews social capital and 'quality of life' had an influence on why CC is present in Pella and Oskaloosa. Firms and residents take an active role within the community. It is not only individuals but companies themselves who then encourage employees to take an energetic role in community involvement promoting 'quality of life' through social and civic capital.

> Musco Lighting and other companies in Oskaloosa have a foundation and understanding that if the community does not have strong amenities, if you don't allow the employees to be involved United Way, school board, church board, or run for council, then the community is not strong and does not have strength in all aspects or organization of the community then the companies also lacks. Companies have encouraged employees and team members to be part of the community and help it grow in whatever interest them. That is why companies will be able to continue to stay and grow. The city takes care of the big structure and a corporate philosophy of giving back in term of foundation to the community. (Oskaloosa, City Official)

This was because many of the firms in Pella and Oskaloosa are family based companies that started and grew in their current locations. They want to see that not only their businesses grow, but also the community.

> Main driving force for Pella Corp, Vermeer, precision Pulley, and others were all started from individuals who lived in the community and have family ties here. Also the other resources here like 'quality of life' and amenities are positives to recruit and maintain a work force (CC) here. (Pella, City Official)

The firms along with residents see the importance of continual growth and improvement to 'quality of life' in the community. This was present in the example of Pella that voted

to extend it local sales tax for amenities that helped improve the ‘quality of life’ of its residents.

> Support for local options sales tax that renewed it with an 87% yes vote. The residents of the community realize what it can do for the community. We (Pella) just had a new sports complex built, aquatic center, and trails. A lot of the money is just put right back into the community for everyone to enjoy. (Pella, City Official)

The ‘Positively Pella’ program another great example of social capital at work helps prospective and new employees of firms to settle into the community by welcoming them to it. They help them get involved in the community and meet other residents right way. This way people do not have to go search on their own for the ‘quality of life’ they are used to. They can plug into the community right at once.

Qualitative Discussion

The original purpose of the case studies was to find out if two μSA were able to engage in attracting CC to help in achieving economic prosperity. The economic activity and well-being that happened in Pella and Oskaloosa had CC taking a role in achieving it. Both communities have a diverse manufacturing sector that creates a significant base for the local economy. The variety of industries in manufacturing and product production in both Pella and Oskaloosa helped to maintain and grow the communities’ economy through the creation of new ‘spin off’ firms or new product lines in existing firms. SI effect on the economic well-being helps maintain a certain level of CC presence based on upper level occupations within the firms such as upper management (LI), engineers

(ASI), accountants (EI), and other highly educated individuals (TI). Part of the overall economic success was a notion of innovation and creativity in the communities that the manufacturing sector and other industries helped to provide. Both communities showed the ability to be productive in creating and producing new products for export, which takes R&D and creative employees or CC to design and develop the products.

The second part of the interviews served to develop examples of how μSA attracts and engages CC in the area. Pella and Oskaloosa both take similar approaches to each other but different methods to engage and attract CC than the traditional measures established by Florida (2002, 2012). Florida's traditional "quality of place" measures are not mentioned during either interview, such as openness to minorities, foreign-born or tolerance to gays. At the end of the day Pella and Oskaloosa do not brand themselves as 'cool' places or an economic centers but rather focused on what their community has to offer, 'quality of life' that is not always found in large MSA (Lewis & Donald, 2010; Putnam, 2000; Rich, 2012). The services and amenities in Oskaloosa and Pella are of high quality and revile many MSAs'. The school systems are good, health care is improving, cultural events, nice parks, and clean safe streets (Rich, 2012).

Pella and Oskaloosa focus on 'quality of life,' amenities, and engaging in civic and social capital as building blocks to attract perspective CC and maintain those already in the community. They view it as if the community has strong amenities and 'quality of life' it will attract potential employees to the area and help reduce turnover. Livability is a reason why Pella and Oskaloosa, as μSAs, are doing well in recruiting and maintaining

CC residents. They make it possible for residents to have a quality life in all facets of life. Social capital and civic engagement is another major aspect of providing a 'quality of life' that people notice and want to take part in. In Pella, being recruited by one of their major employers makes it possible for new residents to get involved within the community in an area of their interest through the 'Positively Pella' program. Pella's Chamber of Commerce provides the information that the recruits and the recently employed need on all aspects of life in Pella. In Oskaloosa, companies encourage employees to get involved in community activities. The firms even allow employees to utilize company resources within reason for community involvement. The formation of social and civic capital helps to strengthen the ties and bonds between residents and to the community making it harder to leave (Florida, 2012Flordia ; Petrov, 2011, 2012). These social ties create a bond for social capital to grow even further affecting 'quality of life' and livability in a positive way that is critical for residents and CC recruitment (Rich, 2012).

The firms that employ the CC see that if social and civic capital, livability, and 'quality of life' of the community grow as a result of firm's civic engagement then the local µSA does as well. However, with this self-reinforcing mechanism of community growth and improved 'quality of life' the firms will continue to grow economically, being able to add jobs, increase wages, produce new products, or expand operations which affects the overall economic well-being of the community. There is a 'bridging' between social capital, CC, and economic well-being (Hoyman & Faricy, 2009)

These two success stories provide a deeper understanding of CC in µSA. The interviews help to explain some of the statistical analysis. They also illuminate some of the differences between CC in µSA and MSA that were seen in the quantitative analysis. CC in µSA is different from MSA, and attracting it with traditional "quality of place" characteristics may not work. Rather, there needs to be strong bonds connecting CC to the community through civic and social capital. Civic and social capital reinforce that residents and businesses showed they care and want to see their community grow for the better. It allows for CC and residents to feel like part of the community and accepted by the community. In MSA it can be seen as individualistic CC is free flowing and do not establish ties to a community or plug into activities and events. They move to whichever community is seen as 'cool,' open, and tolerant (Florida, 2002, 2012). CC in MSA does not seemingly engage in social or civic capital at the community wide level.

Traditional "quality of place" measures not the best suited for identifying CC attractiveness factors. This leads to establishing new "quality of place" variables that can be statistically measured. However, from the interviews social and civic capital are important factors of their communities' appeal to CC. Social and civic capital are hard notions to identify and capture statistically which adds to the difficulty of measuring "quality of place." The only way to find what will work in identifying social and civic capital variables is through further interviews in more µSA. To fully understand how CC functions in µSA further qualitative research has to be conducted.

CHAPTER 6

CONCLUSIONS

The study of the role CC in μSA across the Midwest is an important step in understanding economic activity and regional development of non-MSA. This research was the first attempt to analyze the characteristics, structure and spatial distribution of CC in the micropolitan Midwest. The study also identified factors that affect the presence of CC in μSAs engaging both quantitative and qualitative methods. Finally it determined whether CC plays an important role in respect to innovation, knowledge production, and economic prosperity.

Methodology was developed based on research recently conducted in the rural and periphery settings that indicated Florida's (2002) traditional methodology of analyzing creative class would not be best suited studies of non-metropolitan areas (McGranahan et al., 2011; McGranahan & Wojan, 2007; Petrov, 2007, 2011). Overall, the creative capital metrics in this study represent a combined and modified version of metrics used by Petrov (2007) in peripheral Canada and McGranahan and Wojan (2007) in rural U.S counties. This methodology was the first of its kind being a hybrid between urban and periphery CC matrix. The next component of the study of CC was the development of the "quality of place" indicators. Existing research proposed many different types of factors that can affect a place's attractiveness to the CC (Florida, 2002, 2005; McGranahan et al., 2011; McGranahan & Wojan, 2007; Petrov, 2007, 2008, 2011). Different variables are taken into consideration in what attracts CC to μSA which

included social diversity, openness, tolerance, resource dependency, and amenities. From the development of the CC and "quality of place" indicators analysis could be conducted.

The rankings, case studies, and statistical analysis revealed there is a presence of CC in μSA in the Midwest. However, CC is not evenly spread across the μSA in Midwest but exhibits a strong tendency to cluster. This is seen in the rankings where several of the same communities appeared at the top of CC, Florida's traditional creative class, and recast creative class rankings. The appearance of several of the same μSA can also be seen at the individual CC indices level. Not only do the rankings reveal clustering of CC in communities but cluster analysis does as well. There are clusters of μSA that are 'hotspots' or 'up and coming communities' that have similar higher levels of CC characteristics. μSA with above the national average of one in CC measure was more likely to have higher occurrence of the rest of the CC indicators. The rankings and correlations analysis helped to show that there is a *synergy* among CC. CC was attracted to the presence of other CC, a pattern noted in the literature on other regions (e.g., Petrov & Cavin, 2012). However those μSA with lower presence of CC indicators failed to attract CC. There were μSAs that had low presence of CC as seen in both the rankings and cluster analysis.

One of the most important ways that μSA and even in MSA could raise overall levels of CC was to increase TI, i.e. attract and retain educated people. In the correlation and regression analysis TI has the strongest connections to the other CC indicators. High levels of education attainment are important for CC accumulation. Communities with a

population of higher education rates will be more attractive to CC. A way for communities to improve their education standings is through institutions of higher learning such as universities and colleges. Promotion and support of local universities or colleges could lead to higher rates of CC. Many of the top ranked µSAs and MSA were all communities that have the presence of a university or college. In both Pella and Oskaloosa interviews the key informants mention the role their local college (Central College in Pella) and university (William Penn University in Oskaloosa) play in creating opportunities for locals to advance their education and providing services to local business and CC residents.

In µSA, like in other regions where CC has been studied, there were leading communities ('creative hot spots') and those that lacked behind. Spatial proximity to MSA does not seem to play an important role in µSA accumulation or lack of CC. As for µSA and MSA comparison of the Midwest, MSA generally have a higher presence of CC than µSA. Statistically CC in MSA correlates to each other at a higher rate than µSA. There is a weaker synergy among CC indicators in µSAs than in MSAs. However, there were some µSA that could compete with MSA in regards to relative levels of CC accumulation. Other studies based in peripheral Canada and U.S. had also shown that there was CC in some regions that could compete with major urban centers for CC (Hall & Donald, 2009; McGranahan & Wojan, 2007; Petrov, 2008, 2010; Petrov & Cavin, 2012). One advantage of µSAs could be remoteness from MSAs. This study did not examine the connection between distance from MSA and µSA CC success. There still

seemed to be many communities that dwell on the fact that they were remote and played the role of 'central places', such as state capitals, regional centers, etc. Pierre, SD.

Even though there were differences between CC in μSAs and MSAs, there were similarities between the two regions. CC in μSAs was attracted and formed a synergy just as CC in MSAs. This could be why μSAs can compete against MSAs for CC. Both μSAs and MSAs can be seen as creative and innovative centers that provide economic potential to the region through the correlation analysis with patents, TPI, and per capita income (Cooke & Leydesdorff, 2006; Hall & Donald, 2009; Lagendik & Lorentzen, 2007; Petrov, 2008, 2010). The high knowledge production and economic productivity can be associated with high levels of CC in the communities. Correlation analysis and PCA is strongly correlated to the measure of patents, TPI, and per capita income. The statistical analysis also reveals that occupational bearing played a more important role in innovation, knowledge production, and economic well-being than educational attainment of the community.

On a similar note, in the interviews the informants' primarily focused on occupations through employment of firms in connection to innovation, creativity, and output. The case study interviews also show that there are high levels of R&D and diversity of firms in the communities of Pella and Oskaloosa which requires talented and skillful individuals to conduct operations. However, the interviews reinforced the need to have a diverse economy in the community just as in MSA that are doing will economically and have high rates of CC. The diversity gives the chance for CC to learn

from other sectors spreading knowledge as well as to change jobs while staying in the same community as the case studies help to point out. The interviews show that in both Pella and Oskaloosa companies do learn from one another in management practice through the passing of tacit knowledge.

Economic diversity in the µSA community shows the ability of µSA to move away from reliance on traditional sectors of manufacturing and natural resources, primarily agriculture. It is important to remember that both manufacturing and agriculture help to provide a stable base in µSA for CC, economic well-being, and innovation production, development and growth. This analysis indicated that in some contrast to larger city-regions there is a bridging of the economy in µSA between the traditional sectors (manufacturing, primary) and modern knowledge-based economy. However the economies of µSA still need to move beyond the traditional economic sectors to succeed. Developing a large share of the R&D and product innovation in manufacturing industries as firms in Pella and Oskaloosa have done shows the traditional sector moving beyond the basic principles of manufacturing and agriculture. The statistical analysis helps confirm the connection between a strong manufacturing base, applied science 'capital' and knowledge production (patents). In the future, µSA need to progress beyond just production of products to design and development of new and creative products that are innovative and revolutionary in today's markets. This allows for growth and development of the communities' economy through individuals and companies employment in CC. This link between the traditional sectors of SI and RDI to

modern sector of CC provides further evidence that CC in µSA is different from MSA. µSAs have a stronger bond to rural regions of the Midwest than MSA do.

Another common bond between µSAs and MSAs was the role institutions of higher learning played in their communities in regards to CC. Universities and colleges provide another important economic engine of growth for µSAs as well as for MSAs. From the rankings many of the µSA with high presence of CC were associated with a university or college. This is also the case for many MSA that rank highly in all CC indices (also well described in the literature; e.g., Feldman, 2000; Feldman & Kogler, 2008). Having an institution of higher learning can be seen as a more important factor for CC development in µSA then either SI or RDI.

The clear-cut results of this study strongly indicated that CC did exists in µSA and had a positive impact on economic development and innovations production there is a need to focus on the process of attracting CC. However, the statistical analysis does not make it clear what attracts talented and skilled individuals in CC occupations to µSA in the Midwest. There is a weak relationship between "quality of place" measures and CC. The statistical model results explain factors that do not attract CC with the exception of BI being used as a measure of "quality of place." As already noted, Florida's (2002) traditional methods of "quality of place" or three T's, were not seen as the most important factors of attracting CC to µSA. Florida's traditional measures of "quality of place" were (as expected) attractive to CC in Midwestern MSA, providing further evidence that CC in

µSAs and MSAs are different. It appears that the CC in µSAs is attracted to and is looking for different qualities a community can offer them.

The interviews with the community experts provided a better understanding of what might draw in CC to µSA. In order to attract (and retain) CC in a µSA there needs to be 'quality of life' or livability and not just "quality of place." Residents want and need a community they feel comfortable in and establish lasting connections. In µSA CC seem to desire deeper social bonds than in large MSA. µSAs provide a different life style or 'quality of life' than MSAs, which is attractive to current CC living already in µSAs or looking for the same qualities in a community. Just like in other peripheral communities (e.g., Petrov, 2011) social capital becomes vital in attracting and retaining CC in smaller communities. Civic capital provides CC, all residents, and firms the opportunity to engage in the community and improve the overall quality of it. These relationships present a drastic difference from larger city-region where CC tends to favor 'loose ties' and where string social capital seems to be perceived as detrimental for attracting creativity (Grabher, 1993).

There is no doubt that there is a need for further research to be done on CC in µSA across the Midwest and U.S. Researchers have found CC and human capital are not just present in large MSA but at all spatial levels (Hall & Donald, 2009; McGranahan & Wojan, 2007; McGranahan et al., 2011; Petrov, 2007, 2008; Petrov & Cavin, 2012). The statistical analysis and case studies shows there is a connection among CC as well to innovation and economic well-being. Through CC a community can achieve knowledge

production and economic security. There is still a need for further and deeper investigation of CC in how it was connected to innovation, knowledge production, and economic growth at all spatial levels.

The research showed there is lack of understanding of what attracts CC to µSA in the Midwest. The measures used in "quality of place" did not best explain the occurrence of CC in µSA. While the case studies were helpful in pointing out possible community factors of CC accumulation in µSA, these were just two examples of µSA in the Midwest. There needs to be more case studies and attractiveness variables used to have a true understanding of what attracts CC to µSA. Further examination of the role of social and civic capital in connection to CC is needed. This has the potential to shed a deeper understanding of CC in regards to the values they hold and links they create within geographic locations. µSAs may benefit from exploring their prospects to be creative hot spots. However, the application of Florida dictum is not appropriate – a more nuanced understanding of CC accumulation and function in small towns in needed before any policy recommendation can be made.

There were several limitations that confronted this study. One of the greatest was the data availability. To identify occupations that made up the CC indicators in this study the major grouping codes or the first two digit level from standard occupational classification and coding structure were used. The major occupational classifications were too broad from some of the CC indicators including occupations that could have been removed from the study. However, through American Community Survey at the

MSA and µSA level there was not a further break down of occupational coding at the third or fourth digit level. This further break downs could give a better definition and understanding of CC in µSAs. In regards of "quality of place" measures more could have been added but this would have required finding data sources at the µSA level. Lack of data measuring economic potential at the µSA level was a provided limitation. Many data sources do not have data available at the µSAs level due to being only introduced at the spatial level in 2003.

Limitation in the analysis included not being able to compare CC growth from 2000 to 2010 based on census data. This goes back to µSAs being a newly identified spatial unit in 2003 by the Census Bureau. This would have provided the study with the opportunity to see the shift and patterns of CC over time in µSA in the Midwest.

Time was one of the most important limiting factors for this study. With more time further statistical analysis could have been conducted. More importantly the limitation of time played on the qualitative analysis. With extended time more case study interviews or even expanded in-depth interviews of selected µSA could have been conducted for a better understanding of CC and "quality of place" in µSAs. Conducting more interviews could have led to further insight and understanding of the role social and civic capital play in µSAs.

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APPENDIX A

MICROPOLITAN STATISTICAL AREA CC METRIC RANKINGS

Micropolitan Statistical Area CC Metric Rankings							
Community	CC	TI	LI	EI	ASI	SSI	BI
Aberdeen, SD	7	31	20	33	52	31	10
Adrian, MI	64	69	110	48	49	143	57
Albert Lea, MN	161	156	95	120	162	164	106
Alexandria, MN	8	46	38	7	22	29	55
Allegan, MI	36	65	90	56	27	54	53
Alma, MI	142	164	124	122	135	108	78
Alpena, MI	51	123	97	87	79	14	24
Angola, IN	79	75	138	49	95	93	86
Ashland, OH	116	98	67	164	139	68	123
Ashtabula, OH	151	172	143	149	113	99	99
Atchison, KS	55	41	64	32	183	48	74
Athens, OH	53	13	159	141	76	40	5
Auburn, IN	103	122	74	70	25	183	128
Austin, MN	89	117	54	79	158	6	152
Baraboo, WI	44	58	42	105	51	44	76
Beatrice, NE	71	71	37	8	160	33	188
Beaver Dam, WI	105	129	78	125	42	134	97
Bedford, IN	123	174	176	140	12	27	154
Bellefontaine, OH	156	143	81	154	115	121	180
Bemidji, MN	23	11	134	22	97	11	19
Big Rapids, MI	136	55	150	184	130	163	29
Boone, IA	32	63	40	27	41	7	160
Brainerd, MN	22	45	48	18	81	69	30
Branson, MO	72	80	34	88	153	141	2
Brookings, SD	4	2	29	65	6	3	13
Bucyrus, OH	154	185	186	110	63	144	100
Burlington, IA-IL	82	104	99	62	124	125	35
Cadillac, MI	80	127	120	90	54	105	43
Cambridge, OH	189	184	155	170	182	101	172
Canton, IL	110	165	111	57	129	75	90
Carbondale, IL	46	3	162	107	105	5	6
Celina, OH	93	126	96	23	44	189	95
Centralia, IL	190	161	181	187	175	176	141
Charleston-Mattoon, IL	87	47	139	118	59	91	108
Chillicothe, OH	141	166	92	128	84	120	136
Clinton, IA	102	108	142	76	94	88	83
Coffeyville, KS	140	81	123	35	146	173	165
Coldwater, MI	158	149	129	129	74	185	132
Columbus, NE	52	74	72	97	5	118	65
Connersville, IN	178	189	190	185	82	78	175
Coshocton, OH	129	182	125	80	73	168	72

Continued

Community	CC	TI	LI	EI	ASI	SSI	BI
Crawfordsville, IN	95	96	91	72	143	147	31
Decatur, IN	162	176	177	24	83	186	170
Defiance, OH	88	112	164	127	67	13	82
Dickinson, ND	18	35	7	47	118	23	37
Dixon, IL	134	130	76	98	86	137	182
Dodge City, KS	159	102	170	64	156	160	148
East Liverpool-Salem, OH	187	175	160	180	149	124	162
Effingham, IL	56	57	24	29	77	178	93
Emporia, KS	117	34	114	139	164	96	113
Escanaba, MI	66	79	179	94	20	66	40
Fairmont, MN	84	97	11	171	108	153	17
Faribault-Northfield, MN	10	16	46	44	39	57	14
Farmington, MO	153	137	146	131	150	62	161
Fergus Falls, MN	61	60	15	91	87	110	109
Findlay, OH	15	28	119	4	17	47	41
Fort Dodge, IA	101	89	101	58	181	15	144
Fort Leonard Wood, MO	57	84	69	37	157	30	84
Fort Madison-Keokuk, IA-MO	119	140	113	123	103	36	151
Frankfort, IN	145	169	174	160	56	165	20
Freeport, IL	69	103	57	30	69	100	130
Fremont, NE	146	101	65	132	161	133	157
Fremont, OH	173	168	158	115	107	161	156
Galesburg, IL	113	111	85	169	96	89	89
Garden City, KS	183	99	166	178	176	169	145
Grand Island, NE	90	121	52	75	167	56	96
Great Bend, KS	62	52	13	55	123	71	159
Greensburg, IN	143	134	116	174	19	117	173
Greenville, OH	109	183	109	36	78	87	133
Hannibal, MO	101	109	122	61	168	90	38
Harrisburg, IL	152	141	63	151	131	135	163
Hastings, NE	59	51	26	145	173	24	52
Hays, KS	24	4	107	14	88	67	26
Houghton, MI	34	18	173	109	3	8	33
Huntington, IN	78	136	178	28	13	58	117
Huron, SD	85	61	3	52	125	180	138
Hutchinson, KS	68	77	68	25	80	145	85
Hutchinson, MN	9	86	31	13	1	61	11
Iron Mountain, MI-WI	99	107	180	119	26	85	68
Jacksonville, IL	47	59	128	21	151	17	22
Jamestown, ND	14	37	2	10	47	82	77
Jasper, IN	77	100	73	71	9	167	105
Kearney, NE	38	9	9	41	142	98	48
Community	CC	TI	LI	EI	ASI	SSI	BI
Kendallville, IN	121	171	152	86	60	131	80

Continued

Community	CC	TI	LI	EI	ASI	SSI	BI
Kennett, MO	174	187	175	183	187	39	102
Kirksville, MO	40	38	62	63	165	12	15
Lebanon, MO	185	170	137	186	120	148	176
Lexington, NE	165	135	43	181	189	92	186
Liberal, KS	181	162	169	190	180	41	168
Lincoln, IL	84	106	60	60	127	73	131
Logansport, IN	188	150	172	177	101	179	178
Macomb, IL	36	5	53	144	117	22	4
Madison, IN	98	87	131	156	132	18	59
Manitowoc, WI	65	95	98	69	53	59	103
Marinette, WI-MI	124	155	133	83	62	149	104
Marion, IN	126	125	126	104	144	130	62
Marion, OH	180	180	182	173	116	74	177
Marion-Herrin, IL	75	43	117	147	134	16	61
Marquette, MI	17	10	145	51	28	19	12
Marshall, MN	3	21	10	3	38	10	8
Marshall, MO	144	94	61	163	172	126	120
Marshalltown, IA	70	78	59	89	15	138	114
Marshfield-Rapids, WI	97	68	118	82	65	103	146
Maryville, MO	111	32	105	182	119	72	119
Mason City, IA	61	53	66	40	128	46	139
McPherson, KS	21	24	23	73	46	20	101
Menomonie, WI	27	26	86	126	10	42	34
Merrill, WI	115	138	183	9	93	155	73
Mexico, MO	167	153	49	188	178	172	94
Midland, MI	2	7	27	2	2	1	27
Minot, ND	39	27	16	100	122	38	50
Mitchell, SD	45	49	30	16	55	45	187
Moberly, MO	91	181	80	103	61	113	32
Monroe, WI	20	76	5	5	40	84	67
Mount Pleasant, MI	106	20	167	165	72	139	45
Mount Vernon, IL	150	157	115	148	163	64	116
Mount Vernon, OH	54	72	44	158	30	123	9
Muscatine, IA	58	85	77	59	23	112	110
New Castle, IN	147	159	144	77	90	152	137
New Philadelphia-Dover, OH	122	144	102	137	109	142	47
New Ulm, MN	76	83	51	66	112	170	42
Newton, IA	31	110	83	6	29	50	56
Norfolk, NE	108	88	56	46	166	156	107
North Platte, NE	131	73	18	189	147	102	174
North Vernon, IN	172	190	168	159	57	97	190
Norwalk, OH	186	178	187	155	102	158	169
Oskaloosa, IA	29	91	19	78	31	95	18
Ottawa-Streator, IL	138	118	106	99	121	122	155
Ottumwa, IA	148	132	189	143	133	76	88

Continued

Community	CC	TI	LI	EI	ASI	SSI	BI
Owatonna, MN	19	42	28	38	14	83	66
Owosso, MI	87	131	104	39	24	106	158
Paducah, KY-IL	179	146	149	114	185	128	179
Parsons, KS	170	93	136	116	186	190	127
Pella, IA	26	30	25	43	8	166	51
Peru, IN	169	186	171	68	100	184	129
Pierre, SD	1	6	1	1	4	4	23
Pittsburg, KS	74	19	156	161	75	79	21
Platteville, WI	50	67	12	138	92	65	49
Plymouth, IN	133	105	32	121	152	171	124
Point Pleasant, WV-OH	150	142	165	45	148	151	112
Pontiac, IL	169	163	147	146	85	154	143
Poplar Bluff, MO	176	151	82	153	137	177	185
Portsmouth, OH	166	173	185	162	159	34	115
Quincy, IL-MO	63	56	41	19	114	157	87
Red Wing, MN	16	36	39	26	43	51	69
Richmond, IN	104	119	112	34	136	127	75
Rochelle, IL	118	92	71	167	35	150	147
Rolla, MO	49	22	153	157	64	2	7
Salina, KS	48	33	121	81	58	53	58
Sault Ste. Marie, MI	137	90	103	176	111	119	118
Scottsbluff, NE	68	62	22	67	145	49	135
Scottsburg, IN	176	188	188	150	140	35	184
Sedalia, MO	171	120	151	130	169	181	98
Seymour, IN	132	158	100	179	11	116	140
Sidney, OH	120	154	130	31	21	187	153
Sikeston, MO	182	160	88	166	155	174	189
Spearfish, SD	41	8	14	124	184	26	3
Spencer, IA	130	82	70	175	177	107	91
Spirit Lake, IA	38	14	8	108	141	32	44
Sterling, IL	115	115	135	113	126	70	92
Stevens Point, WI	11	15	79	11	7	86	25
Storm Lake, IA	92	40	75	101	188	132	36
Sturgis, MI	160	152	161	172	91	114	111
Taylorville, IL	135	179	84	96	110	60	181
Tiffin, OH	165	114	108	168	171	140	125
Traverse City, MI	6	12	17	15	66	21	28
Urbana, OH	112	128	55	135	37	159	121
Van Wert, OH	178	148	148	112	138	182	171
Vermillion, SD	5	1	58	20	50	9	1
Vincennes, IN	139	133	154	95	99	77	164
Wabash, IN	127	113	127	92	70	146	149
Wahpeton, ND-MN	96	48	4	152	174	81	122
Wapakoneta, OH	73	124	132	53	36	94	70
Warrensburg, MO	94	29	140	93	98	136	81
Warsaw, IN	25	54	47	102	48	52	16
Washington Court	157	167	89	134	154	111	142

Continued

House, OH							
Community	CC	TI	LI	EI	ASI	SSI	BI
Washington, IN	184	177	184	133	71	188	183
Watertown, SD	43	44	6	74	16	104	126
Watertown-Fort Atkinson, WI	31	39	94	42	33	80	46
West Plains, MO	163	147	87	142	170	129	150
Whitewater, WI	13	23	36	17	34	63	63
Williston, ND	81	66	33	117	179	109	39
Willmar, MN	13	50	21	12	68	25	60
Wilmington, OH	107	139	141	85	45	37	167
Winfield, KS	125	64	157	54	104	175	134
Winona, MN	28	25	50	136	18	43	54
Wooster, OH	42	70	93	50	32	55	64
Worthington, MN	128	116	45	106	190	162	79
Yankton, SD	33	17	35	84	106	28	71
Zanesville, OH	155	145	163	111	89	115	166

Creative Capital Ranking of µSA

APPENDIX B

MICROPOLITAN STATISTICAL AREA "QUALITY OF PLACE" RANKINGS

Micropolitan Statistical Area "Quality of Place" Rankings							
Community	"Quality of Place"	RDI	SI	Tourism	VMI	MI	WLI
Aberdeen, SD	86	168	29	50	116	154	120
Adrian, MI	28	58	127	80	46	75	20
Albert Lea, MN	142	158	108	141	55	53	180
Alexandria, MN	96	90	52	40	188	155	87
Allegan, MI	47	72	141	106	66	52	62
Alma, MI	81	129	60	37	40	123	165
Alpena, MI	50	66	36	53	183	126	72
Angola, IN	109	56	157	25	144	89	167
Ashland, OH	135	101	105	98	181	107	70
Ashtabula, OH	93	21	133	154	86	109	63
Atchison, KS	101	108	79	102	75	188	51
Athens, OH	3	12	9	8	88	36	29
Auburn, IN	145	18	186	172	166	121	23
Austin, MN	91	113	155	146	23	13	60
Baraboo, WI	30	117	82	5	96	39	61
Beatrice, NE	190	162	65	187	176	173	153
Beaver Dam, WI	149	125	161	163	84	73	117
Bedford, IN	168	23	116	78	182	176	137
Bellefontaine, OH	174	76	159	139	159	142	43
Bemidji, MN	9	71	18	18	11	66	112
Big Rapids, MI	33	59	44	29	119	102	111
Boone, IA	163	119	27	181	165	179	19
Brainerd, MN	17	14	24	9	107	153	49
Branson, MO	4	1	4	1	121	80	3
Brookings, SD	45	176	134	42	99	38	35
Bucyrus, OH	173	32	165	64	178	171	182
Burlington, IA-IL	39	63	115	31	85	87	91
Cadillac, MI	139	135	123	68	169	129	127
Cambridge, OH	183	114	111	160	173	149	124
Canton, IL	46	102	38	65	95	70	85
Carbondale, IL	1	22	10	17	13	25	78
Celina, OH	189	147	180	176	177	183	123
Centralia, IL	147	64	76	127	102	158	148
Charleston-Mattoon, IL	35	40	71	30	104	133	11
Chillicothe, OH	51	11	72	54	79	163	47
Clinton, IA	150	99	98	123	109	143	166
Coffeyville, KS	146	89	129	155	22	76	179
Coldwater, MI	165	127	144	168	80	48	160
Columbus, NE	122	157	174	143	20	14	184

Continued

Community	"Quality of Place"	RDI	SI	Tourism	VMI	MI	WLI
Connersville, IN	166	19	139	57	175	168	128
Coshocton, OH	179	132	148	158	184	190	97
Crawfordsville, IN	71	39	175	86	103	57	121
Decatur, IN	187	122	153	136	133	169	181
Defiance, OH	125	10	181	151	48	120	170
Dickinson, ND	54	189	23	77	132	105	6
Dixon, IL	137	68	107	140	47	92	157
Dodge City, KS	133	155	170	175	2	2	131
East Liverpool-Salem, OH	116	26	114	48	150	144	89
Effingham, IL	80	54	75	51	180	170	5
Emporia, KS	29	126	104	36	9	7	77
Escanaba, MI	65	44	74	33	154	134	122
Fairmont, MN	161	182	103	182	137	116	108
Faribault-Northfield, MN	10	52	77	153	28	17	7
Farmington, MO	141	31	31	171	101	162	140
Fergus Falls, MN	100	149	55	133	141	64	25
Findlay, OH	58	17	152	111	83	62	110
Fort Dodge, IA	60	94	57	39	70	86	95
Fort Leonard Wood, MO	2	41	6	6	8	23	16
Fort Madison-Keokuk, IA-MO	152	91	128	103	108	136	113
Frankfort, IN	56	81	168	89	27	12	176
Freeport, IL	80	115	119	117	30	77	40
Fremont, NE	102	128	100	144	38	22	92
Fremont, OH	104	50	163	73	39	81	135
Galesburg, IL	19	98	35	35	35	71	41
Garden City, KS	97	179	93	76	3	3	171
Grand Island, NE	67	146	90	109	12	9	143
Great Bend, KS	44	185	30	32	18	16	96
Greensburg, IN	185	145	176	113	171	90	159
Greenville, OH	188	109	143	186	187	177	132
Hannibal, MO	73	51	99	75	110	189	58
Harrisburg, IL	159	175	15	121	105	160	103
Hastings, NE	78	171	54	150	53	31	116
Hays, KS	62	169	14	28	93	118	144
Houghton, MI	20	29	17	13	128	37	154
Huntington, IN	177	5	173	125	172	180	177
Huron, SD	66	183	83	126	29	28	15
Hutchinson, KS	36	84	49	63	36	85	99
Hutchinson, MN	136	141	167	183	98	58	134
Iron Mountain, MI-WI	127	24	81	79	186	166	162
Jacksonville, IL	90	124	25	107	82	159	142
Jamestown, ND	103	184	46	84	146	139	8
Jasper, IN	168	123	185	189	115	69	80

Continued

Community	"Quality of Place"	RDI	SI	Tourism	VMI	MI	WLI
Kearney, NE	16	150	41	16	63	45	14
Kendallville, IN	106	80	190	130	49	21	149
Kennett, MO	130	152	96	190	16	74	150
Kirksville, MO	15	86	22	23	127	83	18
Lebanon, MO	180	85	147	157	155	106	168
Lexington, NE	171	181	166	161	4	4	185
Liberal, KS	120	188	102	180	1	1	109
Lincoln, IL	110	139	42	156	41	147	69
Logansport, IN	113	61	171	185	17	11	104
Macomb, IL	6	95	28	15	59	54	46
Madison, IN	58	36	158	70	130	78	45
Manitowoc, WI	117	130	184	93	94	59	73
Marinette, WI-MI	119	69	172	41	164	114	74
Marion, IN	26	6	87	45	42	112	90
Marion, OH	170	16	162	169	65	132	156
Marion-Herrin, IL	34	49	20	92	91	124	59
Marquette, MI	31	148	7	14	125	98	76
Marshall, MN	40	174	58	173	43	27	30
Marshall, MO	61	166	112	114	21	26	32
Marshalltown, IA	43	73	150	138	14	8	33
Marshfield-Rapids, WI	139	106	117	145	122	79	79
Maryville, MO	111	144	92	10	111	95	155
Mason City, IA	88	93	78	95	113	93	39
McPherson, KS	164	154	122	174	120	99	84
Menomonie, WI	68	143	64	100	129	82	54
Merrill, WI	186	110	156	166	179	172	172
Mexico, MO	99	136	63	129	56	110	86
Midland, MI	18	3	136	56	112	43	26
Minot, ND	26	159	5	52	73	61	44
Mitchell, SD	169	177	39	12	139	185	136
Moberly, MO	59	9	47	177	76	135	105
Monroe, WI	113	165	94	179	153	67	2
Mount Pleasant, MI	11	79	19	2	50	63	98
North Platte, NE	69	153	3	72	69	117	22
North Vernon, IN	145	37	169	47	170	119	82
Norwalk, OH	124	62	145	115	92	50	126
Oskaloosa, IA	155	163	154	82	145	127	147
Ottawa-Streator, IL	75	112	62	66	54	46	130
Ottumwa, IA	64	33	142	88	37	18	190
Owatonna, MN	63	105	149	142	57	41	34
Owosso, MI	88	20	84	62	160	157	9
Paducah, KY-IL	71	25	26	7	71	186	118
Parsons, KS	124	77	118	188	44	141	64
Pella, IA	130	88	135	118	158	111	119
Peru, IN	159	75	140	104	74	137	183

Continued

Community	"Quality of Place"	RDI	SI	Tourism	VMI	MI	WLI
Pierre, SD	13	140	1	21	31	145	1
Pittsburg, KS	8	42	37	24	67	40	75
Platteville, WI	132	186	56	67	167	164	93
Plymouth, IN	74	46	179	149	62	34	28
Point Pleasant, WV-OH	121	65	40	128	138	187	81
Pontiac, IL	172	131	97	162	61	108	186
Poplar Bluff, MO	95	28	70	90	77	128	88
Portsmouth, OH	86	27	32	59	134	165	115
Quincy, IL-MO	92	78	67	61	118	152	101
Red Wing, MN	72	151	68	49	114	84	83
Richmond, IN	24	4	126	58	68	94	13
Rochelle, IL	89	97	91	122	51	24	125
Rolla, MO	14	13	16	44	81	51	151
Salina, KS	24	47	85	46	24	32	146
Sault Ste. Marie, MI	5	8	13	4	7	68	27
Scottsbluff, NE	41	156	8	124	10	47	42
Scottsburg, IN	178	2	182	99	185	175	152
Sedalia, MO	83	100	124	87	45	19	163
Seymour, IN	126	82	177	152	89	30	94
Sidney, OH	148	15	187	116	142	100	106
Sikeston, MO	130	121	61	134	26	184	65
Spearfish, SD	22	138	11	3	117	140	10
Spencer, IA	156	160	43	159	152	91	141
Spirit Lake, IA	84	134	66	22	190	151	38
Sterling, IL	49	74	113	120	32	60	68
Stevens Point, WI	21	104	53	26	100	55	56
Storm Lake, IA	83	178	130	112	6	5	169
Sturgis, MI	140	57	188	170	52	44	173
Taylorville, IL	153	137	33	167	162	97	55
Tiffin, OH	95	30	151	91	90	131	48
Traverse City, MI	13	60	21	11	126	104	12
Urbana, OH	114	67	146	55	148	138	53
Van Wert, OH	181	107	164	108	157	156	133
Vermillion, SD	37	133	12	20	78	72	189
Vincennes, IN	157	164	51	69	131	103	158
Wabash, IN	182	120	160	137	156	146	129
Wahpeton, ND-MN	175	187	73	132	136	150	100
Wapakoneta, OH	176	70	178	83	189	181	175
Warrensburg, MO	32	45	34	34	60	56	178
Warsaw, IN	42	43	189	131	64	33	50
Washington Court House, OH	108	87	95	60	135	130	67
Washington, IN	184	170	120	165	123	65	188
Watertown, SD	159	173	101	85	147	174	36
Watertown-Fort	55	53	121	105	72	35	138

Continued

Atkinson, WI							
Community	"Quality of Place"	RDI	SI	Tourism	VMI	MI	WLI
West Plains, MO	151	142	88	178	168	96	4
Whitewater, WI	8	35	109	19	34	15	31
Williston, ND	98	190	2	81	97	101	161
Willmar, MN	27	161	48	119	25	29	17
Wilmington, OH	134	34	69	135	140	125	114
Winfield, KS	48	96	132	94	19	42	37
Winona, MN	53	118	110	71	106	49	57
Wooster, OH	143	116	125	96	151	115	145
Worthington, MN	128	180	131	184	5	6	187
Yankton, SD	38	103	59	27	87	88	71
Zanesville, OH	115	38	50	74	124	178	102

"Quality of Place" Ranking of µSA

APPENDIX C

GEOSPATIAL REPRESENTATION OF "QUALITY OF PLACE" MEASURES IN μSA

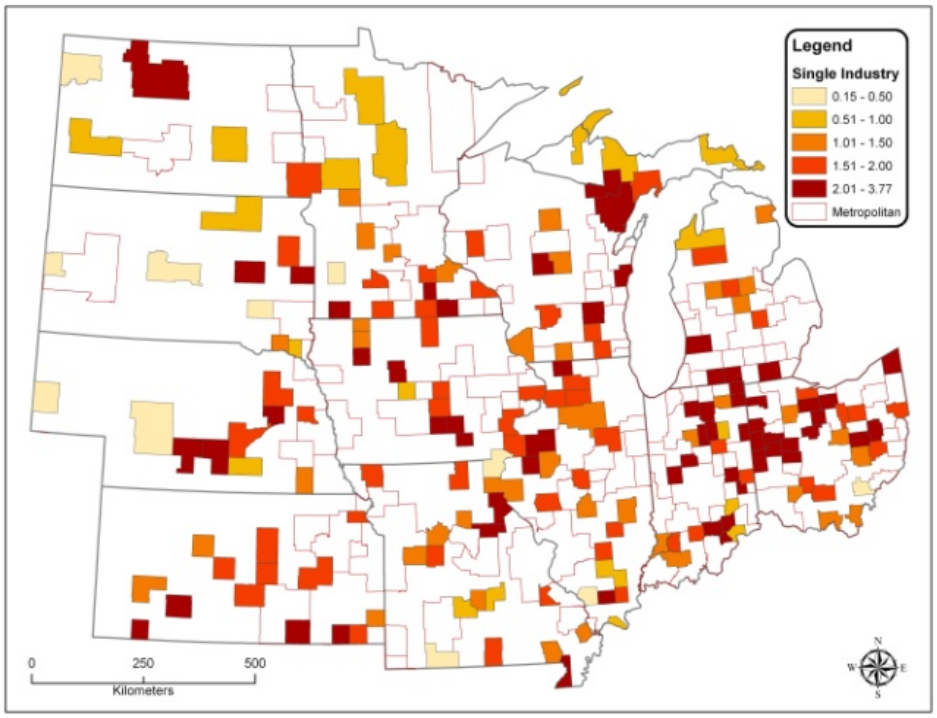

Figure C1 Single Industry Index

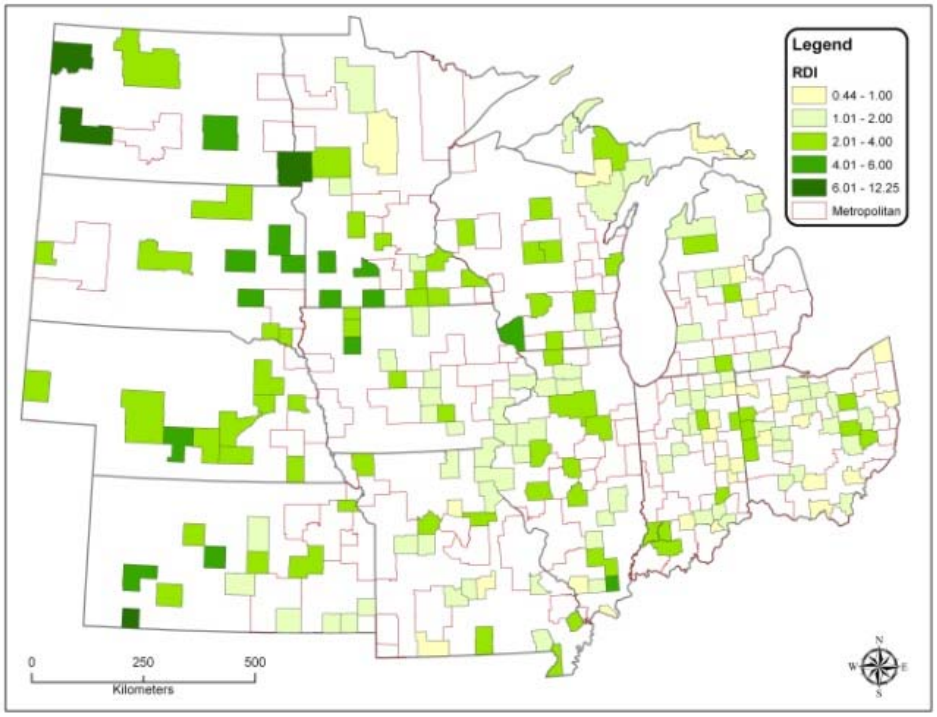

Figure C2 Resource Dependency Index

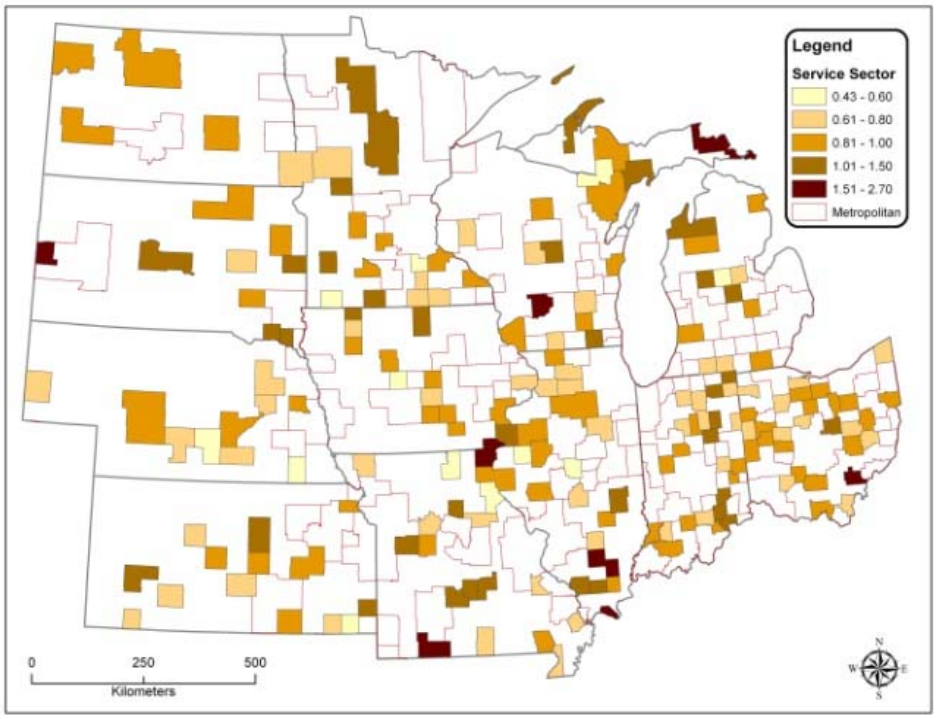

Figure C3 Amenities Index

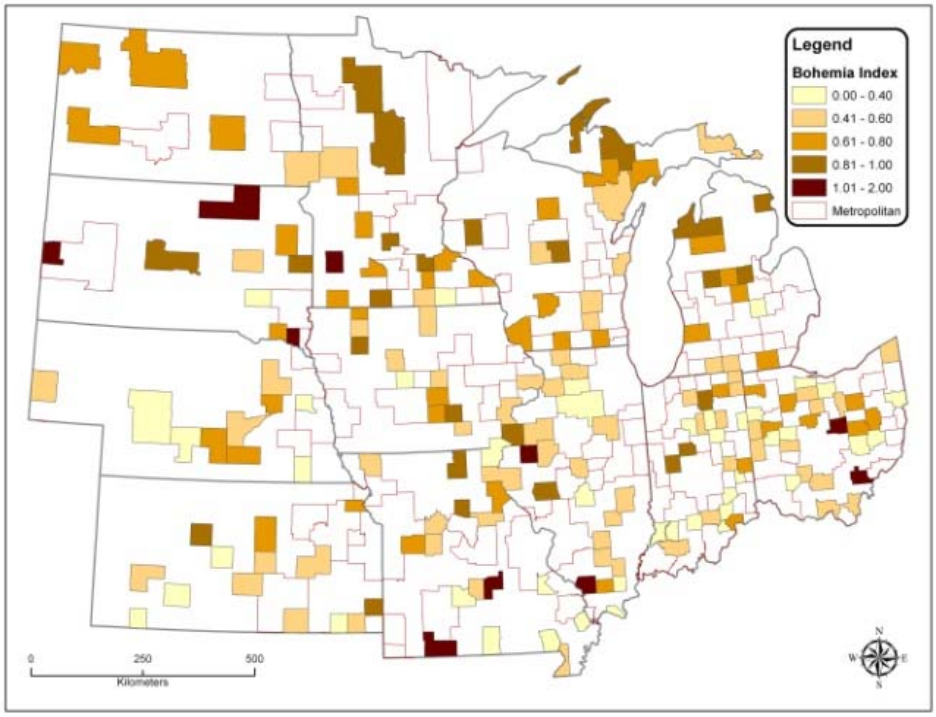

Figure C4 ‘Bohemia’ Index

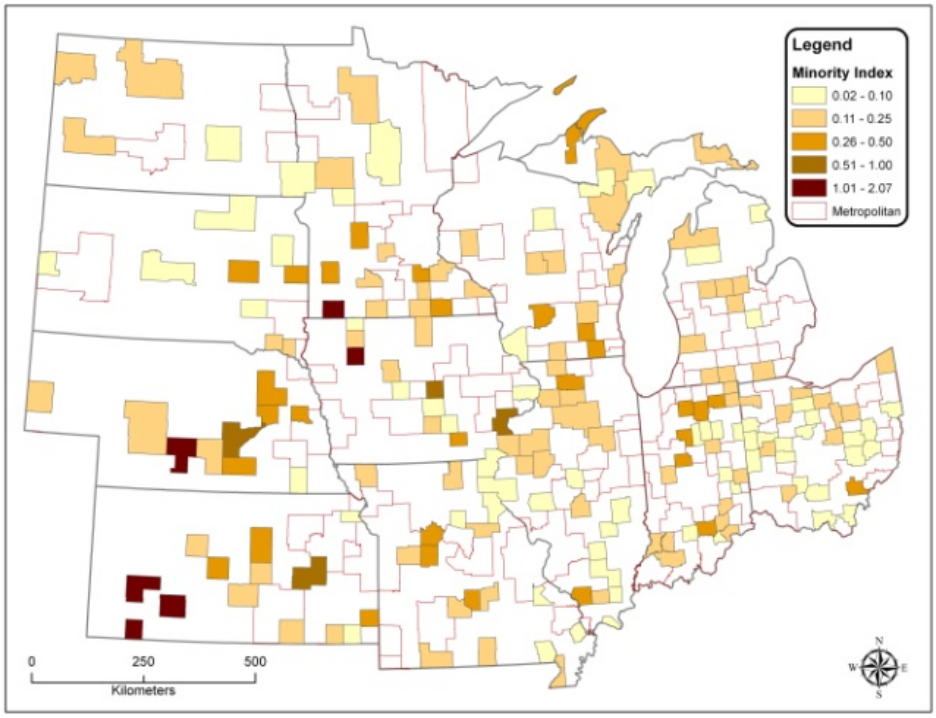

Figure C5 Mosaic Index

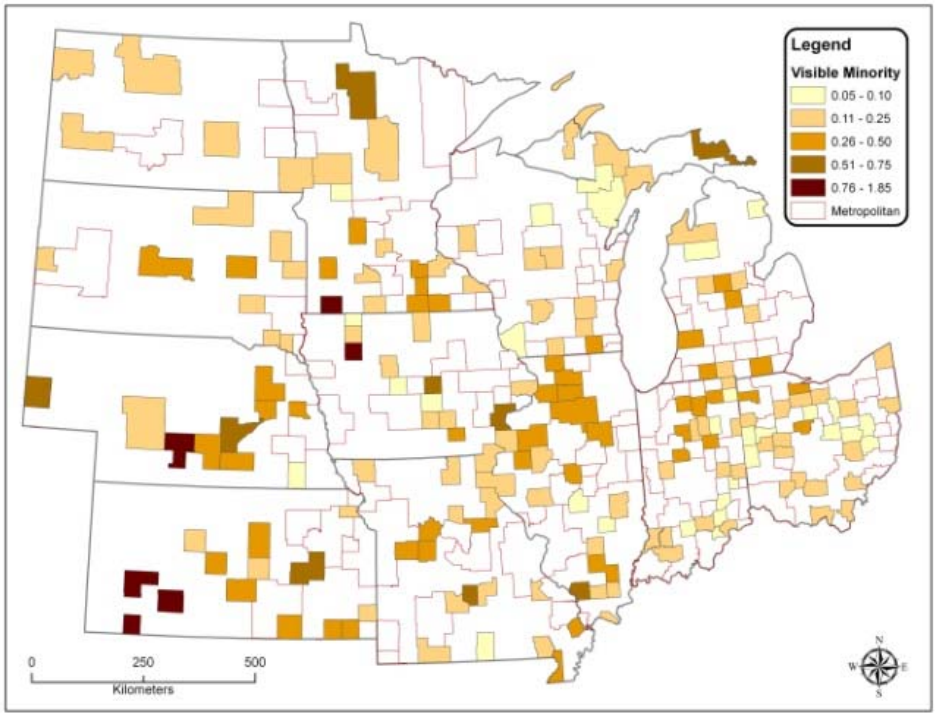

Figure C6 Visible Minority Index

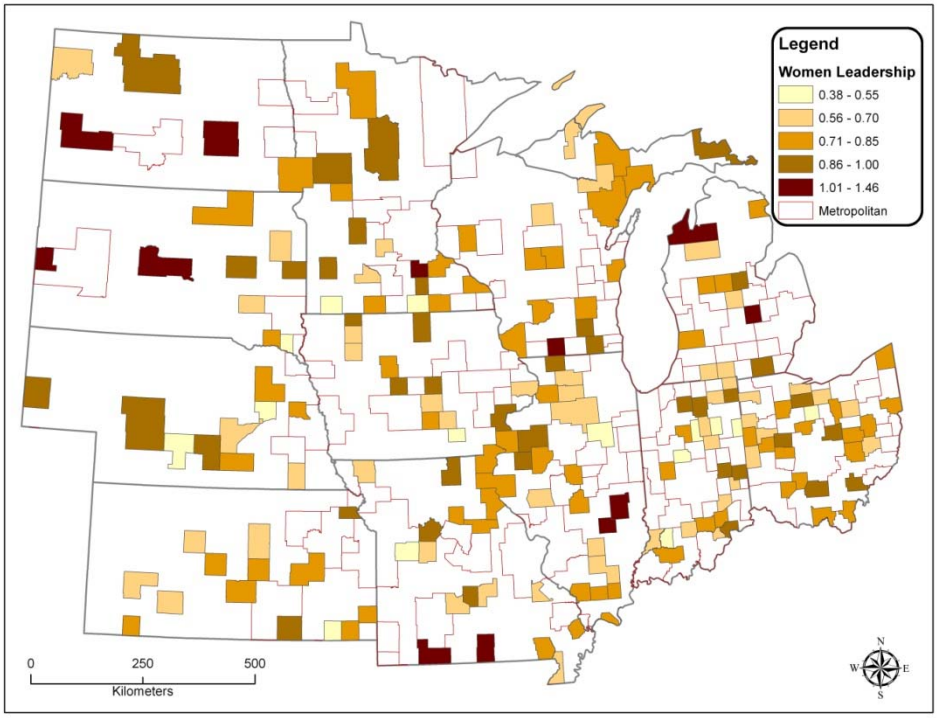

Figure C7 Women Leadership Index

APPENDIX D

MICROPOLITAN AND METROPOLITAN CC METRIC RANKINGS

Micropolitan and Metropolitan Creative Capital Rankings							
Community	CC	TI	LI	EI	ASI	SSI	BI
Aberdeen, SD	48	85	29	91	128	72	23
Adrian, MI	146	139	177	122	121	237	118
Akron, OH	25	44	43	39	30	45	61
Albert Lea, MN	253	251	155	213	260	261	195
Alexandria, MN	53	109	53	36	81	70	115
Allegan, MI	106	135	142	133	89	110	110
Alma, MI	238	260	196	216	228	189	158
Alpena, MI	122	215	160	174	166	47	54
Ames, IA	16	3	81	87	13	2	10
Anderson, IN	127	197	215	75	153	153	59
Angola, IN	167	146	218	123	183	168	169
Ann Arbor, MI	2	1	16	28	2	3	6
Appleton, WI	51	64	98	26	40	116	106
Ashland, OH	203	182	103	261	233	130	216
Ashtabula, OH	246	268	224	245	204	175	187
Atchison, KS	124	103	99	90	281	97	151
Athens, OH	117	47	248	237	163	86	7
Auburn, IN	191	214	117	153	86	281	221
Austin, MN	159	208	80	166	255	21	247
Baraboo, WI	113	126	62	196	125	91	153
Battle Creek, MI	120	147	146	64	123	140	174
Bay City, MI	132	171	267	163	115	77	68
Beatrice, NE	130	141	52	43	258	78	286
Beaver Dam, WI	195	221	124	219	111	228	184
Bedford, IN	209	271	272	236	53	68	249
Bellefontaine, OH	249	236	128	250	206	211	278
Bemidji, MN	77	41	211	74	185	41	44
Big Rapids, MI	219	122	236	282	223	260	67
Bismarck, ND	23	36	55	22	32	17	90
Bloomington-Normal, IL	38	8	136	1	1	104	66
Bloomington, IN	29	28	150	102	41	19	9
Boone, IA	95	133	58	82	108	29	255
Brainerd, MN	82	107	70	69	168	131	70
Branson, MO	132	153	47	175	249	235	2
Brookings, SD	26	10	41	147	34	9	28
Bucyrus, OH	254	282	283	201	146	238	188
Burlington, IA-IL	165	189	162	143	217	215	78
Cadillac, MI	162	219	191	177	132	184	94
Cambridge, OH	285	281	242	268	280	179	270
Canton-Massillon, OH	201	129	178	71	85	142	162
Canton, IL	115	261	179	134	222	144	176

Continued

Community	CC	TI	LI	EI	ASI	SSI	BI
Cape Girardeau-Jackson, MO-IL	166	94	158	140	232	247	135
Carbondale, IL	100	12	251	198	195	15	12
Cedar Rapids, IA	28	48	39	31	4	79	85
Celina, OH	177	218	156	76	113	287	181
Centralia, IL	288	257	278	285	273	274	235
Champaign-Urbana, IL	27	9	122	111	23	6	13
Charleston-Mattoon, IL	182	110	220	211	142	166	199
Chicago-Joliet-Naperville, IL-IN-WI	6	17	25	6	31	22	19
Chillicothe, OH	235	262	144	222	171	210	229
Cincinnati-Middletown, OH-IN	14	39	38	16	26	28	39
Cleveland-Elyria-Mentor, OH	30	52	87	18	44	25	92
Clinton, IA	194	194	223	161	181	162	165
Coffeyville, KS	228	154	195	94	240	271	263
Coldwater, MI	255	244	203	223	161	283	225
Columbia, MO	34	5	200	27	73	7	14
Columbus, IN	54	57	10	51	3	188	157
Columbus, NE	121	145	109	186	33	206	134
Columbus, OH	4	20	20	4	12	26	27
Connersville, IN	276	287	288	283	169	149	273
Coshocton, OH	227	279	197	167	159	265	147
Crawfordsville, IN	176	180	143	155	237	242	71
Danville, IL	240	255	256	144	254	127	237
Davenport-Moline-Rock Island, IA-IL	60	80	115	38	50	132	99
Dayton, OH	44	71	121	37	14	60	101
Decatur, IL	69	118	140	66	65	51	132
Decatur, IN	258	273	273	78	170	284	268
Defiance, OH	179	201	253	221	152	44	163
Des Moines-West Des Moines, IA	7	22	24	2	20	30	32
Detroit-Warren-Livonia, MI	19	53	64	20	8	52	47
Dickinson, ND	73	95	7	121	210	62	86
Dixon, IL	226	222	120	187	173	231	280
Dodge City, KS	258	187	261	146	252	257	243
Dubuque, IA	49	66	88	81	52	134	15
Duluth, MN-WI Metro Area	78	77	152	55	160	46	111
East Liverpool-Salem, OH	284	272	249	278	245	214	258
Eau Claire, WI	103	72	166	53	87	194	127
Effingham, IL	133	125	33	85	164	276	179
Elkhart-Goshen, IN	186	165	209	164	137	218	172

Continued

Community	CC	TI	LI	EI	ASI	SSI	BI
Emporia, KS	208	93	183	235	262	171	204
Escanaba, MI	143	152	276	183	79	126	89
Evansville, IN	85	108	153	100	91	75	112
Fairmont, MN	155	181	13	269	198	249	40
Fargo, ND-MN Metro Area	18	13	96	30	27	43	31
Faribault-Northfield, MN	55	51	67	115	103	115	30
Farmington, MO	249	230	229	226	246	121	257
Fayetteville-Springdale-Rogers, MO	273	286	262	191	257	177	260
Fergus Falls, MN	140	130	19	179	174	195	200
Findlay, OH	66	81	190	21	67	96	91
Flint, MI	128	142	240	99	78	172	122
Fond du Lac, WI	185	169	213	103	110	239	230
Fort Dodge, IA	179	167	164	137	279	48	239
Fort Leonard Wood, MO	129	160	106	98	253	71	166
Fort Madison-Keokuk, IA-MO	211	233	181	217	192	82	246
Fort Wayne, IN	57	79	100	61	36	133	74
Frankfort, IN	235	265	270	256	139	262	46
Freeport, IL	147	188	86	86	155	178	223
Fremont, NE	239	186	101	227	259	227	252
Fremont, OH	272	264	247	206	197	258	251
Galesburg, IL	202	200	134	267	184	164	173
Garden City, KS	282	184	257	276	274	266	240
Grand Forks, ND-MN	61	42	74	107	124	49	125
Grand Island, NE	169	213	78	159	265	112	182
Grand Rapids-Wyoming, MI	40	61	113	41	54	76	37
Great Bend, KS	136	119	17	131	216	138	254
Green Bay, WI	72	91	116	24	61	205	83
Greensburg, IN	233	227	187	272	76	204	271
Greenville, OH	199	280	174	95	165	161	226
Hannibal, MO	183	196	194	142	266	165	87
Harrisburg, IL	242	234	97	247	224	229	259
Hastings, NE	125	117	36	241	271	64	108
Hays, KS	79	16	172	62	175	129	58
Holland-Grand Haven, MI	42	43	89	33	51	137	41
Houghton, MI	92	58	269	200	15	33	73
Huntington-Ashland, OH	158	269	246	266	182	122	256
Huntington, IN	256	229	275	84	55	117	210
Huron, SD	160	131	3	128	218	278	232
Hutchinson, KS	144	149	104	79	167	240	168
Hutchinson, MN	46	162	44	58	9	120	24

Continued

Community	CC	TI	LI	EI	ASI	SSI	BI
Indianapolis-Carmel, IN	12	34	27	10	29	24	45
Iowa City, IA	23	4	83	89	48	8	20
Iron Mountain, MI-WI	189	193	277	212	88	158	140
Jackson, MI	135	178	175	178	39	98	205
Jacksonville, IL	112	127	202	73	247	53	49
Jamestown, ND	70	98	2	48	118	155	155
Janesville, WI	111	128	210	112	129	102	69
Jasper, IN	156	185	114	154	45	264	194
Jefferson City, MO	31	78	60	8	38	35	102
Joplin, MO	162	159	193	149	136	163	197
Kalamazoo-Portage, MI	32	38	105	44	64	23	50
Kankakee-Bradley, IL	222	183	254	160	199	219	186
Kansas City, MO-KS	8	25	21	7	16	37	38
Kearney, NE	94	31	9	109	236	174	103
Kendallville, IN	224	267	238	173	143	225	160
Kennett, MO	266	284	271	281	285	85	191
Kirksville, MO	99	99	95	145	263	42	33
Kokomo, IN	197	150	268	210	37	269	156
La Crosse, WI-MN Metro Area	58	46	204	60	72	74	29
Lafayette, IN	52	26	154	118	49	14	95
Lansing-East Lansing, MI	21	30	147	23	17	13	21
Lawrence, KS	10	2	72	47	28	10	3
Lebanon, MO	282	266	217	284	213	243	274
Lexington, NE	247	228	63	279	287	167	284
Liberal, KS	275	258	260	288	278	88	266
Lima, OH	232	210	227	195	194	256	149
Lincoln, IL	169	191	92	141	220	141	224
Lincoln, NE	11	14	75	11	35	12	17
Logansport, IN	287	245	266	275	190	277	276
Louisville/Jefferson County, IN	116	176	157	54	96	152	133
Macomb, IL	80	19	79	240	209	61	5
Madison, IN	174	163	206	252	225	54	123
Madison, WI	1	6	15	12	5	4	8
Manhattan, KS	47	18	119	83	138	16	51
Manitowoc, WI	151	179	161	152	131	118	192
Mankato-North Mankato, MN	50	29	68	114	104	100	34
Mansfield, OH	205	226	226	232	133	160	154
Marinette, WI-MI	225	250	208	170	145	244	193
Marion-Herrin, IL	277	105	188	243	227	50	128
Marion, IN	152	217	198	194	238	224	129
Marion, OH	221	277	279	271	207	143	275

Continued

Community	CC	TI	LI	EI	ASI	SSI	BI
Marquette, MI	68	37	228	126	90	57	26
Marshall, MN	24	63	12	19	102	40	18
Marshall, MO	231	177	93	260	270	217	213
Marshalltown, IA	146	151	91	176	58	232	206
Marshfield- Rapids, WI	187	138	189	169	148	181	241
Maryville, MO	198	87	170	280	211	139	212
Mason City, IA	137	120	102	105	221	95	233
McPherson, KS	83	69	32	156	117	58	190
Menomonie, WI	87	73	137	220	46	89	75
Merrill, WI	206	231	280	46	180	251	148
Mexico, MO	251	248	73	286	276	270	180
City-La Porte, IN	207	195	151	225	188	199	183
Midland, MI	9	24	37	15	10	1	60
Milwaukee-Waukesha-West Allis, WI	15	32	49	13	22	39	35
Minneapolis-St. Paul-Bloomington, MN-WI	3	11	11	3	7	18	11
Minot, ND	102	76	22	189	215	84	105
Mitchell, SD	108	112	42	65	134	92	285
Moberly, MO	171	278	127	193	144	200	72
Monroe, MI	181	192	231	181	74	196	164
Monroe, WI	74	148	5	29	107	157	137
Mount Pleasant, MI	190	62	258	262	158	233	97
Mount Vernon, IL	241	252	185	244	261	124	209
Mount Vernon, OH	118	143	65	254	93	213	22
Muncie, IN	126	102	219	157	126	128	114
Muscatine, IA	142	161	123	138	82	198	201
Muskegon-Norton Shores, MI	188	199	263	132	120	209	144
New Castle, IN	244	254	225	162	177	248	231
New Philadelphia-Dover, OH	214	237	165	233	200	236	100
New Ulm, MN	154	157	77	148	203	267	93
Newton, IA	98	198	131	34	92	103	116
Niles-Benton Harbor, MI	67	89	82	127	66	106	81
Norfolk, NE	192	166	85	117	264	252	196
North Platte, NE	211	144	26	287	242	180	272
North Vernon, IN	268	288	259	255	140	173	288
Norwalk, OH	286	275	284	251	191	254	267
Omaha-Council Bluffs, NE-IA	13	23	34	14	18	36	55
Oshkosh-Neenah, WI	89	86	199	42	62	176	79
Oskaloosa, IA	97	172	28	165	94	170	42
Ottawa-Streator, IL	236	209	171	188	214	212	250
Ottumwa, IA	243	224	287	239	226	145	171

Continued

Community	CC	TI	LI	EI	ASI	SSI	BI
Owatonna, MN	76	104	40	101	56	156	136
Owosso, MI	172	223	168	104	84	185	253
Paducah, KY-IL	279	239	235	205	283	221	277
Parkersburg-Marietta-Vienna, OH	150	207	243	125	70	113	167
Parsons, KS	263	174	216	207	284	288	220
Pella, IA	89	83	35	113	43	263	107
Peoria, IL	39	65	112	32	11	93	63
Peru, IN	265	283	264	151	189	282	222
Pierre, SD	5	21	1	5	21	11	52
Pittsburg, KS	149	60	244	258	162	150	48
Platteville, WI	119	137	14	234	179	125	104
Plymouth, IN	218	190	45	214	248	268	217
Point Pleasant, OH	245	235	255	116	244	246	203
Pontiac, IL	265	259	230	242	172	250	238
Poplar Bluff, MO	270	246	130	249	230	275	283
Portsmouth, OH	261	270	282	259	256	80	208
Quincy, IL-MO	139	123	61	70	205	253	170
Racine, WI	59	92	110	67	59	55	120
Rapid City, SD	41	59	59	135	77	38	25
Red Wing, MN	75	97	56	80	112	105	142
Richmond, IN	193	211	180	92	229	220	152
Rochelle, IL	205	173	108	264	99	245	242
Rochester, MN	35	15	126	108	6	31	53
Rockford, IL	114	113	184	96	57	192	117
Rolla, MO	107	67	239	253	147	5	16
Saginaw-Saginaw Township North, MI	141	170	232	56	106	208	126
Salina, KS	123	90	192	168	141	109	119
Sandusky, OH	148	124	186	119	130	186	175
Sault Ste. Marie, MI	230	168	167	274	202	207	211
Scottsbluff, NE	138	132	31	150	239	99	228
Scottsburg, IN	271	285	286	246	234	81	282
Sedalia, MO	269	212	237	224	267	279	185
Seymour, IN	217	253	163	277	47	203	234
Sheboygan, WI	105	116	176	77	71	135	138
Sidney, OH	212	249	205	88	80	285	248
Sikeston, MO	280	256	139	263	251	272	287
Sioux City, IA-NE-SD	175	175	169	120	208	146	207
Sioux Falls, SD	36	35	50	35	60	108	56
South Bend-Mishawaka, IN-MI	62	84	135	59	116	63	76
Spearfish, SD	82	27	18	218	282	66	4
Spencer, IA	215	155	107	273	275	187	177
Spirit Lake, IA	93	49	8	199	235	73	96
Springfield, IL	20	33	54	9	24	20	109
Springfield, MO	65	74	133	52	149	94	43
Springfield, OH	180	203	182	136	109	216	189

Continued

Community	CC	TI	LI	EI	ASI	SSI	BI
St. Cloud, MN	84	96	94	97	127	148	64
St. Joseph, MO-KS	134	156	148	106	241	67	150
St. Louis, MO-IL	17	40	57	17	25	27	65
Sterling, IL	213	205	214	204	219	136	178
Steubenville-Weirton, OH	267	242	285	209	212	191	262
Stevens Point, WI	56	50	125	49	42	159	57
Storm Lake, IA	163	101	118	190	286	226	82
Sturgis, MI	259	247	250	270	178	201	202
Taylorville, IL	220	276	132	185	201	119	279
Terre Haute, IN	174	164	265	215	135	101	143
Tiffin, OH	262	204	173	265	269	234	218
Toledo, OH	87	88	159	93	105	56	139
Topeka, KS	37	54	71	25	83	32	80
Traverse City, MI	43	45	23	63	151	59	62
Urbana, OH	200	220	84	230	101	255	214
Van Wert, OH	278	241	234	203	231	280	269
Vermillion, SD	34	7	90	72	122	34	1
Vincennes, IN	237	225	241	184	187	147	261
Wabash, IN	229	202	201	180	156	241	244
Wahpeton, ND-MN	165	111	4	248	272	154	215
Wapakoneta, OH	157	216	207	129	100	169	145
Warrensburg, MO	184	82	221	182	186	230	161
Warsaw, IN	89	121	69	192	119	107	36
Washington Court House, OH	250	263	141	229	250	197	236
Washington, IN	283	274	281	228	157	286	281
Waterloo-Cedar Falls, IA	96	75	212	45	75	182	77
Watertown-Fort Atkinson, WI	109	100	149	110	97	151	98
Watertown, SD	104	106	6	158	63	183	219
Wausau, WI	72	115	111	50	69	114	121
West Plains, MO	260	240	138	238	268	222	245
Wheeling, OH	275	243	274	257	243	223	198
Whitewater, WI	63	68	51	68	98	123	130
Wichita, KS	45	56	129	40	19	87	84
Williston, ND	154	136	46	208	277	190	88
Willmar, MN	64	114	30	57	154	65	124
Wilmington, OH	196	232	222	172	114	83	265
Winfield, KS	223	134	245	130	193	273	227
Winona, MN	92	70	76	231	68	90	113
Wooster, OH	110	140	145	124	95	111	131
Worthington, MN	216	206	66	197	288	259	159
Yankton, SD	101	55	48	171	196	69	146
Youngstown-Warren-Boardman, OH	171	158	233	139	150	193	141
Zanesville, OH	252	238	252	202	176	202	264

Creative Capital Ranking of µSA and MSA

APPENDIX E

MICROPOLITAN AND METROPOLITAN "QUALITY OF PLACE"

MEAUSRES RANKING

Micropolitan and Metropolitan Statistical Area "Quality of Place" Ranking							
Community	"Quality of Place"	RDI	SI	Tourism	VMI	MI	WLI
Aberdeen, SD	165	266	53	95	211	249	206
Adrian, MI	113	143	210	155	113	140	41
Akron, OH	29	3	141	89	56	87	32
Albert Lea, MN	245	256	186	238	124	113	278
Alexandria, MN	180	182	90	69	286	250	162
Allegan, MI	154	160	234	195	143	112	125
Alma, MI	175	226	106	59	106	216	262
Alpena, MI	134	151	62	102	281	219	138
Ames, IA	28	156	41	37	101	18	77
Anderson, IN	44	35	110	55	92	183	71
Angola, IN	210	140	252	33	240	168	264
Ann Arbor, MI	1	4	60	62	15	8	4
Appleton, WI	110	101	226	161	146	89	80
Ashland, OH	243	195	182	183	279	197	135
Ashtabula, OH	200	79	219	252	170	200	126
Atchison, KS	195	202	136	187	155	285	104
Athens, OH	18	57	11	9	173	79	57
Auburn, IN	235	75	281	270	263	214	48
Austin, MN	185	208	250	244	71	26	122
Baraboo, WI	110	213	143	5	185	86	124
Battle Creek, MI	87	49	216	165	48	92	68
Bay City, MI	103	37	102	103	180	212	172
Beatrice, NE	286	260	117	285	273	269	247
Beaver Dam, WI	258	222	256	261	166	138	203
Bedford, IN	264	82	194	151	280	272	229
Bellefontaine, OH	273	166	254	236	255	236	93
Bemidji, MN	43	159	24	23	26	130	196
Big Rapids, MI	120	144	79	44	214	189	195
Bismarck, ND	108	203	7	146	190	234	36
Bloomington-Normal, IL	25	34	20	43	53	54	109
Bloomington, IN	17	63	71	18	141	51	70
Boone, IA	236	215	48	279	262	275	40
Brainerd, MN	70	64	44	10	200	248	102
Branson, MO	20	20	4	1	216	147	6
Brookings, SD	121	274	220	74	189	84	69
Bucyrus, OH	270	102	260	126	276	267	280
Burlington, IA-IL	127	148	193	51	169	164	170
Cadillac, MI	234	232	205	133	266	222	216

Continued

Community	"Quality of Place"	RDI	SI	Tourism	VMI	MI	WLI
Cambridge, OH	280	209	189	258	270	244	213
Canton-Massillon, OH	140	27	172	88	130	179	166
Canton, IL	117	196	66	127	184	134	160
Cape Girardeau-Jackson, MO-IL	56	72	72	46	97	196	74
Carbondale, IL	15	81	12	22	30	59	149
Cedar Rapids, IA	106	100	144	221	167	135	43
Celina, OH	288	244	275	274	275	280	211
Centralia, IL	257	149	131	222	193	253	240
Champaign-Urbana, IL	4	76	37	48	19	12	55
Charleston-Mattoon, IL	117	112	125	45	195	226	22
Chicago-Joliet-Naperville, IL-IN-WI	2	1	78	99	4	4	9
Chillicothe, OH	139	55	127	104	160	258	98
Cincinnati-Middletown, OH-IN	16	5	99	83	39	83	29
Cleveland-Elyria-Mentor, OH	26	6	97	128	11	45	45
Clinton, IA	262	192	167	217	203	237	263
Coffeyville, KS	247	181	213	253	68	142	277
Coldwater, MI	268	224	238	266	161	105	257
Columbia, MO	6	26	16	40	55	47	73
Columbus, IN	90	42	282	206	98	24	24
Columbus, NE	212	255	269	240	65	27	282
Columbus, OH	5	11	42	118	29	31	11
Connersville, IN	260	77	225	111	272	264	217
Coshocton, OH	277	229	243	256	282	288	177
Crawfordsville, IN	176	111	270	164	194	119	207
Danville, IL	174	132	132	174	46	155	254
Davenport-Moline-Rock Island, IA-IL	40	65	120	90	58	75	75
Dayton, OH	31	9	98	79	41	109	66
Decatur, IL	100	121	142	156	38	167	108
Decatur, IN	287	218	248	232	229	265	279
Defiance, OH	227	53	276	249	116	213	267
Des Moines-West Des Moines, IA	23	56	26	178	69	28	13
Detroit-Warren-Livonia, MI	11	2	162	73	8	16	33
Dickinson, ND	132	287	43	149	228	194	10
Dixon, IL	248	155	185	237	115	173	253
Dodge City, KS	208	253	265	273	2	2	221
Dubuque, IA	76	117	101	105	198	198	38
Duluth, MN-WI	79	154	25	25	199	187	82

Continued

Community	"Quality of Place"	RDI	SI	Tourism	VMI	MI	WLI
East Liverpool-Salem, OH	214	87	192	92	246	238	167
Eau Claire, WI	137	152	100	109	205	148	179
Effingham, IL	160	137	130	98	278	266	8
Elkhart-Goshen, IN	125	21	287	192	32	17	244
Emporia, KS	95	223	181	58	22	9	147
Escanaba, MI	153	120	129	53	250	227	208
Evansville, IN	107	68	160	113	136	154	156
Fairmont, MN	251	280	179	280	233	208	192
Fargo, ND-MN Metro Area	45	118	40	75	163	80	113
Faribault-Northfield, MN	54	135	134	251	80	41	17
Farmington, MO	231	99	55	269	192	257	232
Fayetteville-Springdale-Rogers, MO	216	210	232	213	52	44	270
Fergus Falls, MN	188	246	93	229	237	128	50
Findlay, OH	160	74	247	200	165	125	194
Flint, MI	34	7	133	68	12	144	61
Fond du Lac, WI	225	193	218	194	177	118	198
Fort Dodge, IA	150	187	95	66	149	160	175
Fort Leonard Wood, MO	21	113	8	6	17	57	31
Fort Madison-Keokuk, IA-MO	264	183	212	188	202	229	197
Fort Wayne, IN	41	22	195	106	45	65	87
Frankfort, IN	138	171	263	169	77	25	274
Freeport, IL	180	211	199	209	84	143	85
Fremont, NE	197	225	174	241	104	56	171
Fremont, OH	209	131	258	139	105	150	227
Galesburg, IL	82	191	61	57	94	136	86
Garden City, KS	162	277	161	148	3	3	268
Grand Forks, ND-MN	87	220	28	65	139	115	120
Grand Island, NE	144	243	157	198	27	11	235
Grand Rapids-Wyoming, MI	36	69	168	142	44	40	65
Great Bend, KS	111	283	54	52	63	35	176
Green Bay, WI	60	125	177	72	86	70	91
Greensburg, IN	283	242	271	202	268	169	256
Greenville, OH	285	204	237	284	285	273	222
Hannibal, MO	178	134	173	145	204	287	117
Harrisburg, IL	249	273	18	214	196	255	185
Hastings, NE	168	269	92	248	122	68	202
Hays, KS	135	267	17	41	181	210	236
Holland-Grand Haven, MI	88	92	230	170	82	48	155
Houghton, MI	73	94	23	14	224	81	248

Continued

Community	"Quality of Place"	RDI	SI	Tourism	VMI	MI	WLI
Huntington-Ashland, OH	274	30	65	116	260	286	90
Huntington, IN	165	43	268	219	269	276	275
Huron, SD	146	281	146	220	81	64	30
Hutchinson, KS	131	175	85	125	99	157	180
Hutchinson, MN	228	238	262	281	188	120	225
polis-Carmel, IN	7	10	80	96	20	43	21
Iowa City, IA	14	103	30	34	78	22	76
Iron Mountain, MI-WI	222	83	140	152	284	261	259
Jackson, MI	117	25	170	193	95	192	44
Jacksonville, IL	183	221	45	196	164	254	234
Jamestown, ND	187	282	82	162	242	232	18
Janesville, WI	81	84	206	115	79	74	164
Jasper, IN	267	219	280	287	210	133	151
Jefferson City, MO	91	129	31	242	112	163	59
Joplin, MO	101	85	156	87	114	88	144
Kalamazoo-Portage, MI	35	96	152	47	51	71	92
Kankakee-Bradley, IL	71	128	74	63	13	69	212
Kansas City, MO-KS	10	18	50	150	23	42	16
Kearney, NE	61	247	73	20	137	98	28
Kendallville, IN	206	170	288	225	118	53	242
Kennett, MO	226	249	165	288	59	139	243
Kirksville, MO	58	177	39	30	223	153	39
Kokomo, IN	182	59	235	140	133	188	250
La Crosse, WI-MN Metro Area	67	106	87	56	182	106	165
Lafayette, IN	33	88	112	31	57	15	148
Lansing-East Lansing, MI	9	41	56	82	43	37	54
Lawrence, KS	3	19	27	21	61	39	56
Lebanon, MO	281	176	242	255	251	195	265
Lexington, NE	237	279	261	259	5	5	283
Liberal, KS	191	286	178	278	1	1	193
Lima, OH	122	29	180	97	62	204	224
Lincoln, IL	211	236	75	254	107	242	133
Lincoln, NE	27	60	46	144	83	33	46
Logansport, IN	203	146	266	283	60	23	186
Louisville/Jefferson County, IN	72	39	145	50	140	149	99
Macomb, IL	42	188	49	16	129	114	97
Madison, IN	156	108	253	136	226	145	95
Madison, WI	12	73	51	120	70	32	5
Manhattan, KS	24	97	22	78	36	38	83
Manitowoc, WI	221	227	279	176	183	122	139
Mankato-North	77	185	126	29	171	93	137

Continued

Mankato, MN							
Community	"Quality of Place"	RDI	SI	Tourism	VMI	MI	WLI
Mansfield, OH	150	28	233	216	96	190	154
Marinette, WI-MI	217	157	267	70	261	206	140
Marion-Herrin, IL	269	130	33	175	178	217	121
Marion, IN	129	44	151	81	108	203	169
Marion, OH	104	70	257	267	142	225	252
Marquette, MI	95	245	9	15	221	182	146
Marshall, MN	105	272	96	271	109	63	58
Marshall, MO	147	264	190	204	66	61	62
Marshalltown, IA	123	161	245	235	35	10	63
Marshfield- Rapids, WI	246	200	197	243	217	146	150
Maryville, MO	206	241	159	11	206	176	251
Mason City, IA	190	186	135	180	208	174	84
McPherson, KS	267	251	204	272	215	184	158
Menomonie, WI	165	240	116	185	225	151	111
Merrill, WI	284	205	251	264	277	268	269
Mexico, MO	202	233	113	224	126	201	161
City-La Porte, IN	63	50	203	39	50	108	78
Midland, MI	78	32	222	110	207	96	51
Milwaukee-Waukesha-West Allis, WI	20	13	137	158	9	29	15
Minneapolis-St. Paul-Bloomington, MN-WI	8	17	86	154	42	13	3
Minot, ND	92	257	5	101	153	124	94
Mitchell, SD	242	275	68	13	235	282	228
Moberly, MO	143	51	83	275	156	228	187
Monroe, MI	167	23	196	131	201	180	210
Monroe, WI	196	263	163	277	249	131	2
Mount Pleasant, MI	65	169	29	2	119	127	178
Mount Vernon, IL	192	206	81	60	128	262	261
Mount Vernon, OH	136	127	139	199	271	215	42
Muncie, IN	49	24	77	17	125	166	118
Muscatine, IA	161	184	278	262	47	21	106
Muskegon-Norton Shores, MI	128	62	239	122	34	158	220
New Castle, IN	208	45	224	186	245	279	49
New Philadelphia-Dover, OH	198	139	223	76	259	243	191
New Ulm, MN	262	270	183	182	239	205	272
Newton, IA	259	173	155	245	257	256	231
Niles-Benton Harbor, MI	39	114	184	61	28	46	67
Norfolk, NE	173	265	150	246	91	52	129
North Platte, NE	148	250	3	138	148	209	47
North Vernon, IN	239	109	264	86	267	211	153
Norwalk, OH	233	147	240	205	179	110	215

Continued

Community	"Quality of Place"	RDI	SI	Tourism	VMI	MI	WLI
Omaha-Council Bluffs, NE-IA	13	48	35	134	40	36	14
Oshkosh-Neenah, WI	81	36	228	91	157	100	100
Oskaloosa, IA	250	261	249	159	241	220	239
Ottawa-Streator, IL	177	207	109	130	123	102	219
Ottumwa, IA	169	104	236	168	103	49	288
Owatonna, MN	165	199	244	239	127	94	64
Owosso, MI	172	78	147	123	256	252	19
Paducah, KY-IL	146	86	47	7	150	283	204
Parkersburg-Marietta-Vienna, OH	223	142	118	171	274	263	188
Parsons, KS	229	167	198	286	110	235	127
Pella, IA	240	180	221	210	254	202	205
Peoria, IL	68	67	153	143	73	121	112
Peru, IN	265	165	229	189	154	230	281
Pierre, SD	50	237	1	27	88	239	1
Pittsburg, KS	48	116	63	32	145	90	143
Platteville, WI	219	284	94	132	264	259	173
Plymouth, IN	170	124	274	247	135	77	53
Point Pleasant, OH	220	150	70	223	234	284	152
Pontiac, IL	271	228	166	260	134	199	284
Poplar Bluff, MO	193	93	124	172	158	221	163
Portsmouth, OH	181	89	57	114	230	260	201
Quincy, IL-MO	195	168	121	119	213	247	182
Racine, WI	84	40	227	234	18	62	105
Rapid City, SD	32	179	21	19	76	172	37
Red Wing, MN	172	248	122	94	209	156	157
Richmond, IN	98	38	209	112	147	175	26
Rochelle, IL	189	190	158	215	120	58	214
Rochester, MN	62	133	64	207	90	20	141
Rockford, IL	74	8	211	190	14	19	199
Rolla, MO	58	61	19	80	162	111	245
Saginaw-Saginaw Township North, MI	46	33	103	36	10	159	159
Salina, KS	99	126	149	84	72	72	238
Sandusky, OH	89	80	171	8	85	178	130
Sault Ste. Marie, MI	30	46	15	4	16	132	52
Scottsbluff, NE	119	254	10	218	25	103	89
Scottsburg, IN	276	31	277	184	283	271	246
Sedalia, MO	187	194	207	166	111	50	260
Seymour, IN	230	172	272	250	175	67	174
Sheboygan, WI	117	95	283	108	100	55	145
Sidney, OH	253	66	284	208	238	185	189
Sikeston, MO	224	217	107	230	75	281	128
Sioux City, IA-NE-	126	162	176	153	31	14	226

Continued

SD							
Community	"Quality of Place"	RDI	SI	Tourism	VMI	MI	WLI
Sioux Falls, SD	52	115	52	203	131	73	35
South Bend-Mishawaka, IN-MI	37	14	169	100	37	60	119
Spearfish, SD	64	235	13	3	212	233	20
Spencer, IA	255	258	76	257	248	171	233
Spirit Lake, IA	158	231	119	28	288	246	81
Springfield, IL	38	58	6	71	67	126	142
Springfield, MO	51	47	38	67	186	152	123
Springfield, OH	69	52	108	124	87	162	12
St. Cloud, MN	102	174	105	167	168	99	96
St. Joseph, MO-KS	112	138	114	129	117	161	110
St. Louis, MO-IL	23	15	67	64	21	82	88
Sterling, IL	157	163	191	212	89	123	132
Steubenville-Weirton, OH	152	90	69	49	174	240	190
Stevens Point, WI	83	198	91	35	191	116	115
Storm Lake, IA	143	276	214	201	7	6	266
Sturgis, MI	241	141	285	268	121	97	271
Taylorville, IL	244	234	58	265	258	181	114
Terre Haute, IN	93	91	115	147	152	170	23
Tiffin, OH	201	98	246	173	176	224	101
Toledo, OH	55	12	111	42	33	104	249
Topeka, KS	66	71	34	179	49	101	209
Traverse City, MI	59	145	36	12	222	193	25
Urbana, OH	218	153	241	107	244	231	107
Van Wert, OH	280	201	259	197	253	251	223
Vermillion, SD	97	230	14	26	159	137	287
Vincennes, IN	255	262	89	135	227	191	255
Wabash, IN	282	216	255	233	252	241	218
Wahpeton, ND-MN	272	285	128	228	232	245	181
Wapakoneta, OH	276	158	273	160	287	278	273
Warrensburg, MO	114	123	59	54	132	117	276
Warsaw, IN	130	119	286	226	138	76	103
Washington Court House, OH	214	178	164	117	231	223	131
Washington, IN	278	268	200	263	218	129	286
Waterloo-Cedar Falls, IA	75	122	148	85	102	91	134
Watertown-Fort Atkinson, WI	252	136	202	191	151	78	230
Watertown, SD	156	271	175	163	243	270	72
Wausau, WI	133	164	231	227	144	85	27
West Plains, MO	233	239	154	276	265	177	7
Wheeling, OH	204	252	32	93	219	277	184
Whitewater, WI	47	107	187	24	93	30	60
Wichita, KS	53	54	201	121	24	34	168
Williston, ND	184	288	2	157	187	186	258
Willmar, MN	96	259	84	211	74	66	34

Continued

Community	"Quality of Place"	RDI	SI	Tourism	VMI	MI	WLI
Wilmington, OH	239	105	123	231	236	218	200
Winfield, KS	141	189	217	177	64	95	79
Winona, MN	151	214	188	137	197	107	116
Wooster, OH	257	212	208	181	247	207	237
Worthington, MN	199	278	215	282	6	7	285
Yankton, SD	124	197	104	38	172	165	136
Youngstown-Warren-Boardman, OH	85	16	138	77	54	141	241
Zanesville, OH	214	110	88	141	220	274	183

"Quality of Place" Ranking of µSA and MSA

APPENDIX F

CORRELATION ANALYSIS OF CC INDICATORS TO "QUALITY OF PLACE" MEASURES IN MSA

Table F1
Correlation Matric of MSA Measures

	RDI	SI	Tourism	VMI	MI	WLI	Pop Den Sq. M	TPI	Patent	Per Capita Income
TI	-.157	-.526(**)	.228(*)	.218(*)	.564(**)	.552(**)	.069	.719(**)	.266(**)	.663(**)
LI	-.184	-.272(**)	-.087	.307(**)	.516(**)	.729(**)	.230(*)	.756(**)	.425(**)	.763(**)
EI	-.296(**)	-.356(**)	-.129	.340(**)	.411(**)	.568(**)	.281(**)	.720(**)	.441(**)	.728(**)
ASI	-.326(**)	-.161	-.118	.242(*)	.461(**)	.581(**)	.240(*)	.674(**)	.373(**)	.784(**)
SSI	-.119	-.574(**)	.184	.257(*)	.522(**)	.514(**)	.079	.674(**)	.244(*)	.489(**)
BI	-.216(*)	-.440(**)	.260(**)	.221(*)	.515(**)	.576(**)	.139	.732(**)	.316(**)	.564(**)
RDI	1	-.127	-.062	-.477(**)	-.227(*)	-.270(**)	-.611(**)	-.391(**)	-.343(**)	-.189
SI		1	-.336(**)	.010	-.048	-.333(**)	.180	-.514(**)	-.056	-.223(*)
Tourism			1	-.016	-.051	-.010	-.033	.058	-.053	-.127
VMI				1	.684(**)	.209(*)	.659(**)	.461(**)	.536(**)	.244(*)
MI					1	.342(**)	.402(**)	.523(**)	.585(**)	.463(**)
WLI						1	.296(**)	.693(**)	.438(**)	.555(**)
Pop Den Sq. M							1	.400(**)	.687(**)	.255(*)
TPI								1	.550(**)	.699(**)
Patent									1	.415(**)
Per Capita Income										1

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

APPENDIX G

BACKWARDS REGRESSION ANALYSIS OF CC INDICATORS IN μSA AND MSA

Table G1
Backwards Regression of TI in μSA

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	-.023	.055		-.426	.671
	LI_LQs	.328	.064	.251	5.095	.000
	EI_LQs	.094	.068	.075	1.381	.169
	ASI_LQs	.032	.047	.035	.686	.493
	SSI_LQs	.238	.041	.296	5.848	.000
	BI_LQs	.334	.036	.464	9.321	.000
2	(Constant)	-.017	.054		-.314	.754
	LI_LQs	.325	.064	.249	5.066	.000
	EI_LQs	.112	.064	.089	1.755	.081
	SSI_LQs	.243	.040	.302	6.043	.000
	BI_LQs	.335	.036	.466	9.398	.000

Table G2
Backwards Regression of TI in MSA

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.079	.095		-.833	.407
	LI_LQs	.143	.156	.056	.914	.363
	EI_LQs	.071	.070	.056	1.008	.316
	ASI_LQs	.172	.051	.186	3.361	.001
	SSI_LQs	.325	.047	.391	6.890	.000
	BI_LQs	.507	.077	.400	6.544	.000
2	(Constant)	-.003	.046		-.070	.945
	EI_LQs	.099	.063	.078	1.569	.120
	ASI_LQs	.186	.049	.201	3.810	.000
	SSI_LQs	.330	.047	.397	7.059	.000
	BI_LQs	.519	.076	.409	6.814	.000
3	(Constant)	.031	.041		.753	.454
	ASI_LQs	.226	.042	.244	5.404	.000
	SSI_LQs	.331	.047	.398	7.026	.000
	BI_LQs	.537	.076	.423	7.076	.000

Table G3
Backwards Regression of LI in μSA

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	.553	.043		12.958	.000
	EI_LQs	.271	.071	.281	3.822	.000
	ASI_LQs	-.058	.051	-.081	-1.153	.251
	SSI_LQs	-.056	.047	-.091	-1.186	.237
	BI_LQs	-.057	.046	-.104	-1.240	.217
	TI_LQ	.377	.074	.492	5.095	.000
2	(Constant)	.545	.042		12.927	.000
	EI_LQs	.242	.066	.251	3.646	.000
	SSI_LQs	-.063	.047	-.103	-1.352	.178
	BI_LQs	-.059	.046	-.107	-1.276	.203
	TI_LQ	.375	.074	.489	5.066	.000
3	(Constant)	.546	.042		12.923	.000
	EI_LQs	.243	.067	.252	3.648	.000
	SSI_LQs	-.065	.047	-.105	-1.376	.170
	TI_LQ	.320	.061	.419	5.284	.000
4	(Constant)	.546	.042		12.895	.000
	EI_LQs	.232	.066	.241	3.505	.001
	TI_LQ	.279	.053	.364	5.296	.000

Table G4
Backwards Regression of LI in MSA

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.532	.030		17.462	.000
	EI_LQs	.191	.042	.386	4.517	.000
	ASI_LQs	.086	.035	.238	2.480	.015
	SSI_LQs	.016	.038	.050	.421	.675
	BI_LQs	.054	.062	.109	.876	.383
	TI_LQ	.062	.068	.160	.914	.363
2	(Constant)	.530	.030		17.693	.000
	EI_LQs	.189	.042	.383	4.517	.000
	ASI_LQs	.084	.034	.233	2.457	.016
	BI_LQs	.056	.061	.114	.924	.358
	TI_LQ	.079	.055	.203	1.444	.152
3	(Constant)	.540	.028		19.334	.000
	EI_LQs	.190	.042	.385	4.542	.000
	ASI_LQs	.082	.034	.227	2.404	.018
	TI_LQ	.119	.034	.305	3.488	.001

Table G5
Backwards Regression of EI in μSA

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.135	.058		2.323	.021
	ASI_LQs	.246	.047	.332	5.188	.000
	SSI_LQs	.053	.047	.082	1.108	.269
	BI_LQs	.005	.047	.009	.110	.913
	TI_LQ	.109	.079	.137	1.381	.169
	LI_LQs	.272	.071	.262	3.822	.000
2	(Constant)	.136	.058		2.338	.020
	ASI_LQs	.246	.47	.332	5.208	.000
	SSI_LQs	.053	.047	.082	1.112	.268
	TI_LQ	.114	.064	.143	1.762	.080
	LI_LQs	.271	.071	.261	3.839	.000
3	(Constant)	.139	.058		2.407	.017
	ASI_LQs	.255	.047	.344	5.467	.000
	TI_LQ	.150	.056	.189	2.682	.008
	LI_LQs	.265	.070	.256	3.769	.000

Table G6
Backwards Regression of EI in MSA

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.226	.138		-1.637	.105
	ASI_LQs	.205	.077	.279	2.664	.009
	SSI_LQs	-.077	.085	-.118	-.914	.363
	BI_LQs	-.016	.137	-.016	-.113	.910
	TI_LQ	.153	.151	.193	1.008	.316
	LI_LQs	.942	.209	.466	4.517	.000
2	(Constant)	-.228	.137		-1.666	.099
	ASI_LQs	.205	.076	.280	2.696	.008
	SSI_LQs	-.078	.084	-.119	-.933	.353
	TI_LQ	.143	.124	.181	1.149	.253
	LI_LQs	.940	.207	.465	4.550	.000
3	(Constant)	-.216	.136		-1.588	.116
	ASI_LQs	.218	.075	.298	2.918	.004
	TI_LQ	.054	.080	.069	.677	.500
	LI_LQs	.938	.206	.463	4.542	.000
4	(Constant)	-.234	.133		-1.764	.081
	ASI_LQs	.239	.068	.326	3.508	.001
	LI_LQs	.994	.188	.491	5.282	.000

Table G7
Backwards Regression of ASI in μSA

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.200	.085		2.366	.019
	SSI_LQs	.118	.069	.137	1.723	.087
	BI_LQs	.022	.068	.029	.330	.741
	TI_LQ	.079	.115	.074	.686	.493
	LI_LQs	-.123	.107	-.088	-1.153	.251
	EI_LQs	.519	.100	.385	5.188	.000
2	(Constant)	.202	.084		2.394	.018
	SSI_LQs	.118	.068	.137	1.731	.085
	TI_LQ	.100	.094	.094	1.065	.288
	LI_LQs	-.126	.106	-.090	-1.192	.235
	EI_LQs	.519	.100	.385	5.208	.000
3	(Constant)	.202	.084		2.404	.017
	SSI_LQs	.155	.059	.180	2.617	.010
	LI_LQs	-.086	.099	-.061	-.865	.388
	EI_LQs	.537	.098	.398	5.462	.000
4	(Constant)	.148	.056		2.629	.009
	SSI_LQs	.150	.059	.174	2.545	.012
	EI_LQs	.508	.092	.376	5.508	.000

Table G8
Backwards Regression of ASI in MSA

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.413	.177		-2.330	.022
	SSI_LQs	-.152	.110	-.170	-1.388	.169
	BI_LQs	-.124	.178	-.090	-.694	.490
	TI_LQ	.629	.187	.583	3.361	.001
	LI_LQs	.721	.290	.261	2.480	.015
	EI_LQs	.347	.130	.254	2.664	.009
2	(Constant)	-.428	.175		-2.437	.017
	SSI_LQs	-.160	.109	-.178	-1.469	.145
	TI_LQ	.555	.153	.515	3.622	.000
	LI_LQs	.705	.289	.255	2.442	.016
	EI_LQs	.350	.130	.256	2.696	.008
3	(Constant)	-.409	.176		-2.322	.022
	TI_LQ	.381	.098	.354	3.884	.000
	LI_LQs	.699	.291	.253	2.404	.018
	EI_LQs	.377	.129	.276	2.918	.004

Table G9
Backwards Regression of SSI in μSA

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.054	.091		.594	.553
	BI_LQs	.008	.072	.009	.110	.913
	TI_LQ	.658	.113	.529	5.848	.000
	LI_LQs	-.135	.114	-.083	-1.186	.237
	EI_LQs	.126	.114	.081	1.108	.269
	ASI_LQs	.135	.078	.116	1.723	.087
2	(Constant)	.055	.091		.602	.548
	TI_LQ	.666	.088	.536	7.563	.000
	LI_LQs	-.136	.113	-.084	-1.205	.230
	EI_LQs	.126	.114	.081	1.112	.268
	ASI_LQs	.135	.078	.116	1.731	.085
3	(Constant)	.072	.090		.807	.421
	TI_LQ	.685	.086	.551	7.921	.000
	LI_LQs	-.103	.109	-.063	-.942	.348
	ASI_LQs	.167	.072	.144	2.309	.022
4	(Constant)	.007	.057		.122	.903
	TI_LQ	.649	.077	.522	8.385	.000
	ASI_LQs	.167	.072	.144	2.311	.022

Table G10
Backwards Regression of SSI in MSA

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.188	.170		-1.109	.270
	BI_LQs	.145	.167	.095	.866	.389
	TI_LQ	1.041	.151	.864	6.890	.000
	LI_LQs	.118	.281	.038	.421	.675
	EI_LQs	-.115	.126	-.075	-.914	.363
	ASI_LQs	-.134	.096	-.119	-1.388	.169
2	(Constant)	-.126	.081		-1.546	.125
	BI_LQs	.151	.166	.099	.914	.363
	TI_LQ	1.051	.149	.872	7.059	.000
	EI_LQs	-.093	.114	-.061	-.816	.417
	ASI_LQs	-.124	.093	-.111	-1.331	.186
3	(Constant)	-.158	.071		-2.229	.028
	BI_LQs	.148	.165	.097	.898	.371
	TI_LQ	1.034	.147	.858	7.026	.000
	ASI_LQs	-.157	.083	-.140	-1.887	.062
4	(Constant)	-.131	.064		-2.042	.044
	TI_LQ	1.139	.089	.945	12.736	.000
	ASI_LQs	-.162	.083	-.145	-1.948	.054

Table G11
Backwards Regression of BI in μSA

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.063	.093		.677	.499
	TI_LQ	.961	.103	.692	9.321	.000
	LI_LQs	-.144	.116	-.079	-1.240	.217
	EI_LQs	.013	.117	.007	.110	.913
	ASI_LQs	.027	.080	.020	.330	.741
	SSI_LQs	.008	.075	.007	.110	.913
2	(Constant)	.065	.092		.708	.480
	TI_LQ	.963	.102	.693	9.438	.000
	LI_LQs	-.141	.112	-.078	-1.260	.209
	ASI_LQs	.030	.075	.023	.397	.692
	SSI_LQs	.009	.075	.008	.120	.905
3	(Constant)	.066	.091		.718	.473
	TI_LQ	.969	.088	.697	11.014	.000
	LI_LQs	-.142	.111	-.078	-1.275	.204
	ASI_LQs	.031	.074	.024	.424	.672
4	(Constant)	.076	.088		.866	.388
	TI_LQ	.978	.085	.704	11.529	.000
	LI_LQs	-.142	.111	-.078	-1.278	.203
5	(Constant)	-.014	.052		-.273	.785
	TI_LQ	.928	.075	.668	12.310	.000

Table G12
Backwards Regression of BI in MSA

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.100	.105		.951	.344
	TI_LQ	.622	.095	.789	6.544	.000
	LI_LQs	.152	.173	.075	.876	.383
	EI_LQs	-.009	.078	-.009	-.113	.910
	ASI_LQs	-.042	.060	-.057	-.694	.490
	SSI_LQs	.055	.064	.085	.866	.389
2	(Constant)	.102	.103		.990	.325
	TI_LQ	.621	.094	.788	6.612	.000
	LI_LQs	.143	.156	.071	.920	.360
	ASI_LQs	-.043	.057	-.059	-.755	.452
	SSI_LQs	.056	.063	.086	.886	.378
3	(Constant)	.126	.098		1.284	.202
	TI_LQ	.592	.086	.752	6.897	.000
	LI_LQs	.095	.142	.047	.670	.504
	SSI_LQs	.065	.062	.099	1.044	.299
4	(Constant)	.186	.039		4.705	.000
	TI_LQ	.621	.074	.788	8.353	.000
	SSI_LQs	.062	.062	.095	1.002	.319
5	(Constant)	.176	.038		4.601	.000
	TI_LQ	.684	.040	.868	17.208	.000

APPENDIX H

BACKWARDS REGRESSION ANALYSIS OF CC INDICATORS TO "QUALITY OF PLACE" MEASURES IN µSA AND MSA

Table H1
µSA Regression of TI to "Quality of Place" measures

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.297	.096		3.103	.002
	BI	.391	.042	.543	9.279	.000
	RDI	.014	.008	.098	1.678	.095
	SI	-.058	.020	-.200	-2.870	.005
	Tourism	.042	.044	.061	.937	.350
	VMI	-.054	.108	-.065	-.500	.618
	MI	.116	.105	.148	1.097	.274
	WLI	.197	.068	.154	2.910	.004
2	(Constant)	.280	.089		3.132	.002
	BI	.395	.041	.549	9.619	.000
	RDI	.015	.008	.104	1.806	.073
	SI	-.054	.018	-.187	-2.911	.004
	Tourism	.042	.044	.062	.953	.342
	MI	.067	.042	.086	1.604	.111
	WLI	.198	.067	.156	2.944	.004
3	(Constant)	.325	.076		4.289	.000
	BI	.409	.039	.568	10.600	.000
	RDI	.012	.008	.086	1.587	.114
	SI	-.061	.017	-.214	-3.717	.000
	MI	.070	.042	.089	1.664	.098
	WLI	.203	.067	.159	3.017	.003
4	(Constant)	.372	.070		5.289	.000
	BI	.403	.039	.560	10.457	.000
	SI	-.069	.016	-.240	-4.323	.000
	MI	.092	.040	.117	2.316	.022
	WLI	.193	.067	.152	2.872	.005

Table H2
MSA Regression of TI to "Quality of Place" measures

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.400	.205		1.952	.054
	BI	.744	.090	.586	8.302	.000
	RDI	-.033	.031	-.059	-1.052	.295
	SI	-.128	.029	-.243	-4.380	.000
	Tourism	.012	.115	.005	.105	.916
	VMI	-.256	.100	-.184	-2.548	.013
	MI	.524	.115	.350	4.567	.000
	WLI	.084	.134	.036	.626	.533
2	(Constant)	.414	.149		2.785	.007
	BI	.746	.086	.588	8.690	.000
	RDI	-.033	.031	-.060	-1.075	.285
	SI	-.128	.028	-.245	-4.593	.000
	VMI	-.255	.100	-.184	-2.559	.012
	MI	.522	.113	.349	4.628	.000
	WLI	.080	.129	.034	.623	.535
3	(Constant)	.477	.110		4.334	.000
	BI	.764	.081	.602	9.470	.000
	RDI	-.037	.030	-.067	-1.232	.221
	SI	-.132	.027	-.251	-4.800	.000
	VMI	-.258	.099	-.186	-2.597	.011
	MI	.528	.112	.353	4.714	.000
4	(Constant)	.386	.082		4.704	.000
	BI	.799	.076	.630	10.572	.000
	SI	-.122	.026	-.232	-4.630	.000
	VMI	-.195	.085	-.140	-2.284	.025
	MI	.484	.106	.324	4.547	.000

Table H3
µSA Regression of LI to "Quality of Place" measures

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.293	.068		4.277	.000
	BI	.101	.030	.184	3.358	.001
	RDI	.060	.006	.546	9.989	.000
	SI	.009	.014	.042	.644	.521
	Tourism	-.031	.032	-.059	-.964	.336
	VMI	-.033	.077	-.052	-.428	.669
	MI	-.058	.075	-.096	-.764	.446
	WLI	.545	.048	.559	11.267	.000
2	(Constant)	.283	.064		4.415	.000
	BI_LQs	.104	.029	.189	3.535	.001
	RDI	.061	.006	.550	10.272	.000
	SI	.012	.013	.053	.881	.379
	Tourism	-.030	.032	-.058	-.955	.341
	MI	-.087	.030	-.145	-2.902	.004
	WLI	.546	.048	.560	11.326	.000
3	(Constant)	.325	.042		7.779	.000
	BI_LQs	.101	.029	.183	3.456	.001
	RDI	.059	.005	.532	10.747	.000
	Tourism	-.043	.028	-.082	-1.500	.135
	MI	-.082	.029	-.137	-2.783	.006
	WLI	.538	.047	.552	11.384	.000
4	(Constant)	.304	.040		7.694	.000
	BI_LQs	.081	.026	.147	3.104	.002
	RDI	.060	.005	.546	11.151	.000
	MI	-.080	.030	-.134	-2.726	.007
	WLI	.525	.047	.539	11.260	.000

Table H4
MSA Regression of LI to "Quality of Place" measures

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.445	.112		3.962	.000
	BI	.135	.049	.272	2.742	.007
	RDI	.015	.017	.069	.871	.386
	SI	-.002	.016	-.011	-.144	.885
	Tourism	-.129	.063	-.143	-2.043	.044
	VMI	.029	.055	.053	.518	.605
	MI	.099	.063	.171	1.582	.117
	WLI	.469	.073	.517	6.396	.000
2	(Constant)	.434	.086		5.078	.000
	BI	.137	.046	.277	2.980	.004
	RDI	.016	.016	.072	.980	.329
	Tourism	-.126	.060	-.140	-2.089	.039
	VMI	.030	.054	.055	.556	.580
	MI	.097	.061	.167	1.601	.113
	WLI	.471	.071	.519	6.650	.000
3	(Constant)	.446	.083		5.406	.000
	BI	.130	.044	.263	2.952	.004
	RDI	.011	.014	.053	.816	.417
	Tourism	-.123	.060	-.136	-2.052	.043
	MI	.121	.043	.207	2.803	.006
	WLI	.472	.071	.520	6.682	.000
4	(Constant)	.471	.077		6.126	.000
	BI	.130	.044	.263	2.968	.004
	Tourism	-.127	.060	-.140	-2.123	.036
	MI	.116	.043	.199	2.720	.008
	WLI	.461	.069	.508	6.658	.000

Table H5
µSA Regression of EI to "Quality of Place" measures

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.379	.103		3.682	.000
	BI	.180	.045	.315	3.974	.000
	RDI	.005	.009	.042	.531	.596
	SI	.010	.022	.044	.470	.639
	Tourism	-.096	.048	-.178	-2.006	.046
	VMI	.050	.116	.076	.436	.664
	MI	-.143	.113	-.229	-1.259	.210
	WLI	.256	.073	.253	3.521	.001
2	(Constant)	.394	.096		4.102	.000
	BI	.176	.044	.308	3.980	.000
	RDI	.004	.009	.036	.459	.647
	SI	.006	.020	.028	.327	.744
	Tourism	-.096	.048	-.179	-2.024	.044
	MI	-.097	.045	-.157	-2.157	.032
	WLI	.254	.072	.252	3.512	.001
3	(Constant)	.418	.063		6.670	.000
	BI	.174	.044	.305	3.980	.000
	RDI	.003	.008	.026	.363	.717
	Tourism	-.103	.043	-.191	-2.423	.016
	MI	-.094	.044	-.152	-2.140	.034
	WLI	.250	.071	.247	3.525	.001
4	(Constant)	.425	.059		7.162	.000
	BI	.175	.043	.307	4.032	.000
	Tourism	-.106	.042	-.196	-2.534	.012
	MI	-.090	.042	-.144	-2.130	.035
	WLI	.250	.071	.247	3.538	.001

Table H6
MSA Regression of EI to "Quality of Place" measures

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.957	.270		3.547	.001
	BI	.221	.118	.221	1.872	.064
	RDI	-.073	.041	-.167	-1.785	.078
	SI	-.121	.038	-.291	-3.142	.002
	Tourism	-.522	.151	-.287	-3.455	.001
	VMI	.121	.132	.110	.914	.363
	MI	.083	.151	.070	.546	.586
	WLI	.456	.176	.249	2.593	.011
2	(Constant)	.927	.263		3.523	.001
	BI	.256	.099	.255	2.587	.011
	RDI	-.066	.039	-.151	-1.706	.091
	SI	-.116	.037	-.279	-3.113	.002
	Tourism	-.535	.149	-.293	-3.592	.001
	VMI	.172	.092	.157	1.865	.065
	WLI	.461	.175	.251	2.629	.010

Table H7
µSA Regression of ASI to "Quality of Place" measure

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.300	.133		2.259	.025
	BI	.216	.058	.281	3.703	.000
	RDI	-.018	.012	-.116	-1.537	.126
	SI	.068	.028	.223	2.461	.015
	Tourism	-.065	.062	-.090	-1.059	.291
	VMI	-.473	.149	-.531	-3.162	.002
	MI	.286	.146	.342	1.959	.052
	WLI	.196	.094	.144	2.091	.038
2	(Constant)	.229	.114		1.997	.047
	BI	.196	.055	.254	3.552	.000
	RDI	-.014	.011	-.091	-1.268	.206
	SI	.081	.025	.263	3.196	.002
	VMI	-.468	.149	-.526	-3.133	.002
	MI	.279	.146	.333	1.909	.058
	WLI	.189	.094	.139	2.023	.045
3	(Constant)	.167	.104		1.610	.109
	BI	.205	.055	.266	3.741	.000
	SI	.091	.024	.297	3.822	.000
	VMI	-.433	.147	-.486	-2.943	.004
	MI	.223	.139	.266	1.598	.112
	WILI	.201	.093	.148	2.156	.032
4	(Constant)	.122	.101		1.218	.225
	BI	.223	.054	.289	4.135	.000
	SI	.106	.022	.346	4.811	.000
	VMI	-.217	.058	-.244	-3.721	.000
	WLI	.201	.094	.147	2.142	.034

Table H8
MSA Regression of ASI to "Quality of Place" measures

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.530	.363		1.458	.148
	BI	.456	.159	.333	2.869	.005
	RDI	-.128	.055	-.215	-2.329	.022
	SI	-.003	.052	-.006	-.062	.951
	Tourism	-.516	.204	-.207	-2.532	.013
	VMI	-.248	.178	-.166	-1.392	.167
	MI	.400	.204	.248	1.965	.052
	WLI	.694	.237	.277	2.924	.004
2	(Constant)	.516	.277		1.861	.066
	BI	.459	.149	.336	3.086	.003
	RDI	-.127	.051	-.213	-2.462	.016
	Tourism	-.513	.196	-.206	-2.622	.010
	VMI	-.246	.174	-.164	-1.411	.162
	MI	.397	.197	.246	2.018	.046
	WLI	.697	.229	.278	3.039	.003
3	(Constant)	.418	.270		1.551	.124
	BI	.517	.144	.378	3.598	.001
	RDI	-.092	.045	-.154	-2.023	.046
	Tourism	-.540	.196	-.217	-2.759	.007
	MI	.202	.141	.126	1.435	.155
	WLI	.693	.231	.277	3.007	.003
4	(Constant)	.477	.268		1.778	.079
	BI	.611	.129	.447	4.739	.000
	RDI	-.101	.045	-.170	-2.237	.028
	Tourism	-.602	.192	-.242	-3.142	.002
	WLI	.691	.232	.276	2.981	.004

Table H9
µSA Regression of SSI to "Quality of Place" measures

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	.621	.154		4.025	.000
	BI	.274	.068	.306	4.029	.000
	RDI	-.024	.014	-.131	-1.733	.085
	SI	-.126	.032	-.353	-3.896	.000
	Tourism	-.124	.072	-.147	-1.732	.085
	VMI	-.274	.174	-.265	-1.574	.117
	MI	.308	.170	.317	1.814	.071
	WLI	.166	.109	.105	1.525	.129
2	(Constant)	.761	.125		6.113	.000
	BI	.278	.068	.311	4.087	.000
	RDI	-.025	.014	-.140	-1.843	.067
	SI	-.136	.032	-.381	-4.275	.000
	Tourism	-.117	.072	-.138	-1.627	.105
	VMI	-.287	.174	-.277	-1.645	.102
	MI	.315	.171	.323	1.843	.067
3	(Constant)	.623	.092		6.801	.000
	BI	.241	.064	.270	3.743	.000
	RDI	-.018	.013	-.100	-1.388	.167
	SI	-.113	.029	-.317	-3.947	.000
	VMI	-.278	.175	-.269	-1.588	.114
	MI	.300	.171	.308	1.755	.081
4	(Constant)	.558	.079		7.078	.000
	BI	.254	.064	.283	3.961	.000
	SI	-.101	.027	-.282	-3.688	.000
	VMI	-.233	.172	-.226	-1.353	.178
	MI	.229	.164	.235	1.398	.164
5	(Constant)	.505	.068		7.376	.000
	BI	.272	.063	.304	4.351	.000
	SI	-.086	.025	-.242	-3.424	.001
	MI	.025	.064	.026	.392	.696
6	(Constant)	.508	.068		7.475	.000
	BI	.273	.062	.305	4.364	.000
	SI	-.085	.025	-.238	-3.410	.001

Table H10
MSA Regression of SSI to "Quality of Place" measures

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.469	.321		1.461	.147
	BI	.672	.140	.440	4.789	.000
	RDI	-.015	.048	-.023	-.314	.754
	SI	-.233	.046	-.369	-5.103	.000
	Tourism	-.115	.180	-.041	-.639	.525
	VMI	-.101	.157	-.060	-.641	.523
	MI	.535	.180	.297	2.977	.004
	WLI	.119	.210	.042	.566	.573
2	(Constant)	.416	.272		1.529	.130
	BI	.682	.136	.446	5.007	.000
	SI	-.228	.043	-.361	-5.329	.000
	Tourism	-.109	.178	-.039	-.612	.542
	VMI	-.076	.135	-.045	-.561	.576
	MI	.518	.170	.288	3.043	.003
	WLI	.133	.203	.048	.656	.513
3	(Constant)	.409	.271		1.508	.135
	BI	.701	.132	.458	5.321	.000
	SI	-.228	.043	-.361	-5.343	.000
	Tourism	-.121	.176	-.043	-.684	.496
	MI	.453	.125	.252	3.638	.000
	WLI	.122	.202	.044	.606	.546
4	(Constant)	.515	.206		2.501	.014
	BI	.736	.118	.481	6.249	.000
	SI	-.233	.042	-.368	-5.555	.000
	Tourism	-.145	.171	-.052	-.847	.399
	MI	.457	.124	.254	3.689	.000
5	(Constant)	.373	.119		3.134	.002
	BI	.715	.115	.468	6.217	.000
	SI	-.225	.041	-.356	-5.510	.000
	MI	.476	.122	.264	3.902	.000

Table H11
µSA Regression of BI to "Quality of Place" measures

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.423	.165		2.563	.011
	RDI	-.002	.015	-.012	-.158	.875
	SI	-.091	.035	-.228	-2.630	.009
	Tourism	.349	.073	.370	4.748	.000
	VMI	-.538	.185	-.466	-2.911	.004
	MI	.505	.181	.464	2.785	.006
	WLI	.072	.119	.041	.610	.543
2	(Constant)	.410	.141		2.895	.004
	SI	-.089	.031	-.222	-2.835	.005
	Tourism	.353	.069	.374	5.113	.000
	VMI	-.533	.181	-.461	-2.941	.004
	MI	.496	.172	.456	2.883	.004
	WLI	.074	.118	.042	.625	.533
3	(Constant)	.469	.104		4.490	.000
	SI	-.093	.031	-.232	-3.029	.003
	Tourism	.358	.068	.379	5.234	.000
	VMI	-.538	.181	-.466	-2.979	.003
	MI	.497	.172	.457	2.895	.004

Table H12
MSA Regression of BI to "Quality of Place" measures

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.151	.238		.633	.528
	RDI	-.077	.035	-.176	-2.179	.032
	SI	-.110	.032	-.265	-3.437	.001
	Tourism	.342	.129	.188	2.652	.009
	VMI	-.354	.111	-.324	-3.197	.002
	MI	.693	.112	.588	6.168	.000
	WLI	.565	.144	.308	3.921	.000

APPENDIX I

INTERVIEW QUESTIONS GUIDE

Questions about Companies already in place

1. What Key industries and companies are looked within the micropolitan area?
2. What firms would you say employ a high number to workers within the Creative Capital (CC)?
3. Are any of the companies producers of new knowledge, for example in the form of patens, high-tech industries, as well as cultural industries?
4. What is being done and by who to help industries and firms grow?
5. What is being done to keep them within your micropolitan area not moving to a larger economic area?
6. Have there been companies that have left the area for bigger markets?

Questions pertaining to attracting new Firms and industry to region

1. What measures are being taken by the community and local government to attract new business to the area?
2. Have you tried to create a “buzz or present your area as an attractive area or in a positive image? If so how? If not why?
3. Does the local government perceive that it is a good place to locate a firm?

CC Questions

1. Would you say the area has a high percentage of CC occupation?
2. Does the city see many workers traveling to other labor markets nearby, especially those within CC?
3. Do you think that the area attractive to those within CC, would they want to move here?
4. In my statistical analysis work I have noticed a trend of cultural capital playing being strongly connected to CC occupationally but also in quality of place or attractiveness factors. Do you see this in your community? What types of cultural capital, festivals, or cultural events do you have in the area that is attractive to the community? Do they help in attracting people to the community to live or as tourist? Even possible new firms or keeping companies in the area?
5. In your opinion what is the community doing to make it more attractive to potential and current people in the area? Is it the cultural, natural, or service amenities?
6. Is it more important for your region to attract new business to the other or have an available supply of labor force that is creative and innovative?

Success Story

1. What are a few examples of companies or industries that have succeed in the area?

2. What worked for them in the area or what was in place for them to succeed?

3. What did the local government do in order to help them, in the way of terms or conditions?

General Question

1. What are some of the challenges of the community is facing in attraction firms and industries and people to the area?

2. In your opinion what should be done and what has been done that has worked in the past?

3. What are some of the most attractive and unattractive things about the community?